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MEDICARE'S END STAGE RENAL DISEASE PROGRAM:

HOW A MORE COMPETITIVE APPROACH WOULD ADDRESS IMPORTANT POLICY ISSUES

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ABSTRACT

Medicare spends approximately \$2 billion a year on nearly comprehensive medical care for about 60,000 Americans with End Stage Renal Disease (ESRD). The sheer size of the program, its high political visibility, and its rapid growth (exceeding some early estimates) make it a natural target for cost-cutting reforms. Indeed, change seems inevitable. This paper analyzes cost issues, patient and provider behavior, and how pro-competitive reforms might address issues of cost and quality, as well as the general aspects of the program as perceived by patients, providers and the government.

Current cost containment relies on two main strategies: (1) The number of dialysis stations has been limited by certificate-of-need and other regulatory provisions in an effort to limit capital costs and to discourage inappropriate utilization; (2) Prices have been limited by paying essentially the same charge for each maintenance dialysis treatment since the program began in 1973. (A third strategy, promoting allegedly cheaper home dialysis and reducing the in-facility payment level, has been proposed but not yet implemented.)

The current ESRD marketplace, particularly the market for maintenance dialysis, thus resembles commercial aviation before Civil Aeronautics Board deregulation began: Price is fixed by the government, and a limited number of providers can seek to attract customers (nephrologists and their ESRD patients) only by offering more convenient access and hours of dialysis, better facilities, more personnel, and other characteristics ancillary to the basic treatment capability. As for airlines, it appears that competition among multiple dialysis units, where it exists, has raised the level of such ancillary amenities given to customers. Under competition, patients thus receive more and providers less of the value of Medicare payments, so that "profits" are lower (for non-profits, excess of revenues over costs). This effect supports the argument that more competition (i.e., freer entry of new providers and expansion by old ones) would improve resource allocation by maximizing patient benefits for a given level of government payment.

Achieving overall ESRD savings (particularly for the government program) is another matter altogether. There is no magic in the various pro-competitive strategies that would automatically lower the costs of providing ESRD services. In fact, in the current range of spending and where services are so dominated by public payment, what determines "cost" is how much government is willing to pay. Lowering payment levels would save money by changing patterns of practice, patient access, and provider earnings (whether for-profit or non-profit). Increasing home dialysis under current practice might or might not lower overall spending and total social cost. Evidence that costs are lower at home is not convincing; in general, larger dialysis facilities are much cheaper per service than smaller ones, and the home is the smallest of all. The main economy seems to be low cost (or no cost) home labor.

One meaning of competition is greater patient choice among and equalized payment for different sites and modes of treatment that offer equivalent care or are substitutes for one another. Under such competition, home care and all

other alternatives would increase or decrease according to patients' and physicians' assessments of the relative costs and benefits involved. In addition, patients and providers could maximize their satisfaction with care for a given level of government payment. But total program spending would still be established by the basic payment level, not by patients' choices (home vs. facility, etc.) In the same vein, more competition would keep providers' profits down to normal levels, thus reducing conflict-of-interest problems for providers tempted to manipulate their patients for gain.

Affecting the larger allocation of all social resources devoted to ESRD patients requires more thoroughgoing pro-competitive reforms: either providers or patients must be able and motivated to weigh the relative values of different types of care and make appropriate economizing tradeoffs among them (substituting outpatient for inpatient care, for example). This requires a more global payment system rather than the current fragmented methods which, for example, pay separately for dialysis services of different types or for inpatient care. Some variant of paying providers global capitation for all services (including ESRD and non-ESRD, perhaps) or giving beneficiaries vouchers to buy all care would achieve this.

In either case, government must still face the politically difficult choice of how much it should contribute. Seeking competitive bids from providers and closely monitoring the resulting quality and access to care is one way to help decide whether spending is appropriate or could be lower. An alternative to this "set the rate and observe the outcome" strategy is to involve patients in the decision by allowing them to share in the cash savings achieved by economizing--through a voucher, or voucher-like, system. In any event, careful attention to both cost and quality-access incentives is important.

I. INTRODUCTION

Medicare's End Stage Renal Disease (ESRD) program has been a significant success by many measures. In 1981, over 60,000 Americans were leading relatively normal lives on maintenance dialysis or with a transplanted kidney. It is generally believed that no one is denied needed care. While quality of care is always a concern in medical programs, there is no reason to believe that kidney care has been substandard.^{1/}*The industry has faced little or no criticism on quality grounds--unlike nursing homes or public hospitals, for example.

ESRD program expenditures, while large, have grown mainly in proportion to the lives prolonged. The main service provided most beneficiaries is ambulatory maintenance dialysis, and the price paid per treatment at free-standing facilities and some hospitals has remained virtually constant over the life of the program. In inflation-adjusted "real" terms, therefore, program costs per facility treatment have actually declined.^{1-2/}

In achieving these goals, the federal government has intruded less upon the normal functioning of free-market incentives than has often been the case in health care programs. The program relies upon private providers and allows patients access to the provider(s) of their choice. Payment policy has in great measure avoided the dilemma faced by other health programs of having to choose between runaway reimbursement rates and stringent regulation of payments and care. The program relies less than do most third parties on cost-based reimbursement and usual-and-customary fees (which are inherently inflationary unless highly regulated). In particular, freestanding maintenance

* Asteriks refer to explanatory footnotes which appear at the bottom of the page. Numerical references in the text refer to authoritative references which appear at the end of the report.

dialysis facilities and some hospital facilities are essentially paid on the basis of Medicare-fixed charges (technically, the "screen") regardless of their costs, which gives them incentives to economize on the costs of producing treatments. Indeed, while the precise reason is not clear, there have been dramatic reductions in the length of dialysis and the cost of the treatment. This contrasts with the cost-enhancing treatment changes and technological advances typical of much medical care.

The foregoing are all significant achievements. The political reality, nonetheless, is that ESRD beneficiaries and providers alike should expect major reforms of ESRD program and regulatory policy in the future. Such reforms are likely to take pro-competitive forms. It therefore behooves those who owe their lives or their livelihood to the ESRD program to understand what competition would likely mean for ESRD, how the current rules of the game differ from that ideal, how competitive in practice the current system is, and how the Administration may try to get from the status quo to competition. This paper addresses these issues, which are so important for the ESRD community.

Conversely, how the ESRD marketplace has responded in the past to competitive and other incentives is of considerable interest more generally--to pro-competitive reformers as well as to all other policymakers concerned with health care delivery and financing. A large industry has evolved in response to the medical, ethical, and financial consequences of full program coverage for persons with chronic renal failure. Indeed, nephrology as a medical specialty has been totally transformed by the ESRD program.

This paper analyzes cost issues, patient and provider behavior, and how pro-competitive program reforms might improve resource allocation, particularly for maintenance dialysis but also for other services. ESRD is so

fascinating because it demonstrates the importance of how financial incentives are structured even where the covered disease is life-threatening, where program coverage is very extensive, and where patient out-of-pocket cost sharing is not significant--all factors often said to preclude competitive and cost-conscious behavior. Indeed, the main program controls have thus far been provider payment incentives, although administrative-regulatory means are also used. If fiscal incentives can constructively and effectively operate in the ESRD field, they probably can be effective elsewhere as well. Our discussion is thus of very broad relevance.

Other ESRD industry characteristics also make analysis of this medical program very rewarding for everyone concerned with the health care industry. ESRD provides a virtual microcosm of interesting features of the larger health care enterprise, including:^{3/} large for-profit and not-for-profit sectors; co-existence of physician compensation based upon both fee-for-service (the "initial method") and capitation ("alternate method"); many maintenance dialysis facilities compensated on a de facto charge-based system, while competitors offering substitutes are compensated on a cost basis; and a large component of the industry which treats patients in freestanding ambulatory centers, while most of the rest is hospital based. ESRD thus provides a rich lode of experience to analyze.

This paper is organized as follows: The next section explains why ESRD regulation will persist but is likely to change in pro-competitive ways. We then discuss the classic model of competition, the current ESRD marketplace, how competitive it now is, what enhanced competition is and is not, and what pro-competitive reforms may mean for ESRD. The following section covers how

competition would likely address some important ESRD issues. Finally, we consider a public program's bottom line--competition's effects on program spending--and analyze the pros and cons of adopting competitive approaches.

We conclude that there are numerous ways to induce more competitive behavior in the delivery of ESRD services, especially maintenance dialysis, although there are significant implementation problems with some strategies. Competition can be promoted by altering either provider or consumer incentives, so that they can weigh the full costs and benefits of alternative treatment choices, and by removing current limitations on the supply of dialysis treatments imposed by certificate-of-need and other restrictions. Experience under the current ESRD payment system, which features limited competitive incentives on dialysis providers, shows promise that competition does indeed alter behavior in ways beneficial to patients and the ESRD program alike. Increasing competitive incentives and decreasing regulation might help hold down total program spending, but its main effect would probably be to increase beneficiaries' satisfaction with the care financed by whatever level of resources government chooses to devote to the ESRD program.

II. THE REALITY OF REGULATION AND DYNAMICS OF CHANGE

Why should anyone concerned about the ESRD program worry about government regulation and program reform? Is not the current trend in Washington toward deregulation? Should not the ESRD program be satisfied that many lives are being prolonged and that life-prolonging services have quickly become generally available throughout the country? The answer is clearly that regulation is inevitable and that regulatory change is in the wind, for the following reasons.

A. With the Bucks Come the Strings

Because the public pays taxes to finance ESRD care, there is a legitimate and enduring public interest in ESRD program spending and benefits. And because government runs the ESRD program, "regulation" necessarily arises.* Any purchaser cares deeply about how much money must be spent on a purchase and just what is received for that spending. This reality applies whether the purchaser is public or private and whether ESRD services or some other good is the commodity at issue. Especially where a great deal of money is at stake, any buyer wants the best deal possible: with the bucks inevitably come some strings. Any buyer must stipulate (a) just what goods or services are being bought, (b) under what conditions, and (c) at what price(s). The most plebeian of transactions involves these basic elements.

Such terms of purchase for ESRD services, under our legal system, take the form of regulation. Public programs must act mainly through formal mechanisms--statutes and written regulations. Such regulations are really

* Readers should recall that, although we speak of "the" ESRD program for convenience of expression, in reality ESRD is part of the far larger Medicare program. Moreover, Medicaid, private insurers, and other payers cover a not insignificant portion of renal care.

more like contract specifications than like regulation as commonly understood. For ordinary regulation, as of public utilities, a government agency intervenes in basically private transactions in order to correct marketplace defects (e.g., natural monopoly) or to achieve overriding social goals not being met privately (e.g., civil rights). In the case of direct public purchase of goods and services, in contrast, an agency is the purchaser, and government transactions define the market rather than regulate a basically private series of transactions.

For the ESRD program, government is a purchaser rather than a true regulator, even though it buys ESRD services not for itself but for other defined beneficiaries. It is important for physicians and other concerned parties to realize that the type of federal ESRD controls (i.e., "regulation") is what is at stake, not the existence of regulation. Simply removing all fiscal controls is not an option. In this light, understanding what is meant by deregulation and promoting competition is very important to providers as well as to public policymakers.

B. Pressures and Directions for Reform

The reason ESRD program change is inevitable is twofold: first, despite all past favorable cost containment, growth in spending is believed to have outstripped some initial projections.^{1/} ESRD is a very large federal spending program. Any program that has well surpassed the billion-dollar-a-year mark, as ESRD has, is a natural target of fiscal concern. Recent ESRD expenditure growth may now be modest when compared with the early, more explosive increases (due mainly to rises in persons saved and served)--or when compared with other health care price inflation. On a per-person-treated basis the ESRD program has a comparatively low-rate of growth, but renal patients are chronic and consequently receive treatment year after year while most if not

all other forms of care that may be equally costly (e.g., coronary bypass surgery) are on a one-time basis and tend to receive less attention. But the rate of growth remains substantial and is all the more noticeable because it now comes on top of a base of nearly two billion dollars annually.

Continued increases in spending become especially hard to justify when many other federal programs are facing zero increases or actual cuts during the current period of domestic program retrenchment. Increased cost-containment pressure is a natural result. Moreover, heavily regulatory means of controlling program spending currently are disfavored compared with voluntarism and incentives.

The second reason to expect changes is that the Administration appears committed to reducing the presence of government in many economic sectors. This policy dictates certain reforms--not only cutting government spending, but also deregulating and promoting private enterprise and competition. In the general health care sector, as elsewhere, pro-competitive reforms and incentives for private action are expected to be proposed wherever possible to replace public regulation which mandates particular processes or results.^{4/} Increasing competition in health care financing and delivery is doubly attractive, since it is generally expected by its advocates to save money as well as to reduce government intervention.^{5-7/} The same general approach is likely to be attractive in the ESRD context, although specific proposals have not yet been developed as of this writing.

Deregulation associated with promoting competition can be a tantalizing prospect for those who feel overregulated. Especially before concrete proposals have given the concept specific meaning, it is tempting for ESRD providers to anticipate an end only to unpopular overregulation. We all generally oppose regulation which limits our professional freedom or our

incomes but often support rules which in our view have good effects. It is thus tempting to relish the idea that deregulation means only jettisoning overlong claims forms, duplicative inspections, contradictory safety rules, and the like.

Correctly understood, however, deregulation and promoting competition mean replacing government rules which directly limit how program money is spent with a more decentralized system in which individual patients and providers' decisions determine resource allocation, given the incentives created by broadly applicable payment rules. Such rules may result in very stringent limits on private actors even as they relax specific regulatory requirements. The next section considers competition and ESRD in greater depth.

III. INCREASING COMPETITION: GETTING FROM HERE TO THERE

The push for ESRD reform is thus a fiscal and political reality that is unlikely to be denied. It is important, therefore, to understand how the current federal rules of the game are apt to be changed to save money and to promote competition. This section first describes what we mean by competition generally and how competitive principles relate to the health care market and to ESRD services. We then discuss how regulations order the current ESRD market. Next we cover what we know about competition under current conditions. Finally, we analyze what competition means for ESRD compared with other medical services.

A. Competitive Principles and Their Application to Medical Services Markets

Competition means various things to different people. This is often the case with popular policymaking buzzwords before concrete proposals are presented. Neither the Administration nor other advocates have yet formally suggested comprehensive pro-competitive ESRD program reforms. We have therefore designed our discussion to develop what ESRD competition could and should mean, rather than to describe actual proposals. It is useful to begin with a short general discussion of competition.

When economists and other analysts speak of free markets and competition, they mean ones in which many buyers purchase goods or services from many sellers. In a classically competitive marketplace, the price paid and the quantity of products produced are established by supply and demand--how much of a product sellers are willing to produce at any given price and how much buyers are willing to pay for that product at any given level of output. Neither buyer nor seller can affect the price or quantity unilaterally; each must accept or reject the market price which results from innumerable

transactions in the marketplace. Buyers spending their own dollars on a product want the lowest price possible, for a given quality, so that more dollars are left to spend on other demands. Sellers similarly want to produce as efficiently and cheaply as possible so as to make the most profit they can, given what the market will allow them to charge. Sellers compete for buyers by lowering prices to attract customers. If profits are abnormally high (that is, prices are well above the cost of production, which includes a normal-sized profit to attract investment), other producers divert some productive resources from a less profitable product and increase production of the overpriced product. This increase in the quantity available then lowers its price to buyers until any above-normal profits are eliminated and buyers get the lowest possible price for a given quantity and quality of output.

In a perfectly competitive market, buyers' satisfaction is maximized for any given level of dollars available to spend (and thus to pay for all the competing types of production). No consumer can be made better off without hurting someone else: this is logical, since each person is assumed to follow his own best interest in making all purchasing decisions (which are then smoothly translated into production orders through the price mechanism). If changing his consumption patterns would make a buyer more satisfied, he would do so voluntarily; he could thus be made better off only by being transferred more resources from someone else--which naturally would decrease the other person's satisfaction. Further, perfectly competitive markets also achieve the most efficient allocation of productive resources (investment capital and labor) to produce a given level of output, based on the relative costs of the resources.

Consumers are also assumed to seek the best deal available to them, according to their own interests and preferences. Full information is

presumed to be available to them. It is important to note that not all shoppers need to be equally knowledgeable, cost-conscious, and mobile in order for sellers to be appropriately motivated by the threat of losing customers or the potential rewards of attracting them. Sellers compete to attract marginal customers, that is, the last to arrive and the first to leave. The behavior of these marginal consumers disciplines all sellers.

A simplified ESRD example can helpfully illustrate this vital point. Suppose that a new dialysis facility is trying to attract nephrologists and their dialysis patients and that its "break-even" point is ten patients. This means that all of its profits come from the eleventh and subsequent patients. The first ten patients' payments all go to cover fixed costs--such as rent, utilities, complying with regulatory requirements, and so on. Now, the first patients to arrive are the easy ones to attract and keep: they live next door, their brother-in-law works at the facility, their doctor knows the facility director, and so forth. Subsequent patients come harder: they live farther away, they demand more personal attention, their doctors have higher standards for medical supervision, and so on. But the facility must attract these marginal patients to make money and thus must offer them or their doctors more or better services or perquisites.

Unfortunately for the facility and fortunately for all ESRD patients, the facility cannot for long offer better care or perquisites to the eleventh patient (or to his doctor) than to the fourth one, or to the twentieth than to the eleventh. Earlier patients would revolt as soon as they saw harder-to-attract people get more personal or better care, TV sets, or box lunches; and their physicians would not accept lower compensation or perquisites than late-comers were getting. And a facility certainly cannot formally offer or advertise benefits to some that will be withheld from others. Because the

facility must in the long run treat everyone virtually the same or lose their business, the existence of even a few fussier customers works to the advantage of less demanding ones.

More sophisticated dialysis buyers thus effectively help their less informed brethren. This important phenomenon does not always help consumers--as tourists shopping in third-world bazaars might testify. They must barter almost entirely on their own, without benefit of posted prices or knowledge of what other buyers have been able to obtain. Under such circumstances, less-informed buyers operate at far greater risk.* Similarly, if a product or service is unique, consumers cannot easily comparison shop or exchange information and share experiences. To the extent that ESRD or other medical services are highly individualized, less knowledgeable patients may lose some of the normal benefits of having their providers cater to better informed customers. Table 1 summarizes the key features of the competitive model, including some not fully discussed in the text. (See Table 1 on next page).

Health care services are somewhat different from other goods and services, mainly because most care is paid for by third parties rather than by out-of-pocket patient spending and because for many reasons consumers' purchasing decisions may be dominated by stark medical needs and by the professionals from whom they buy advice and medical services.8-10/

The main reason that most health care service markets differ from other markets is how we pay for the services. Where public programs or private third-party insurance cover almost all services at little out-of-pocket cost to patients, those patients have comparatively little reason to shop around

* Even in a bazaar, however, our hypothetical tourists can still benefit from competition--comparison shopping in multiple stalls--although they cannot benefit from the superior experience of native shoppers.

Table 1

Significant Conditions and Consequences
of The General Model of Competitive
Market Behavior

Conditions	Consequences
<ul style="list-style-type: none"> o Many buyers and sellers in the market, none of whom have any control over price, i.e., all economic agents must accept the going price o New sellers are free to enter the market while older establishments are free to go bankrupt or leave the market o Buyers seek to maximize their welfare by purchasing the best price, quantity and quality combination of goods given their preferences and income o Sellers seek to maximize profits by competing in price, quantity and quality of goods to be sold 	<ul style="list-style-type: none"> o Prices are set by market-place supply and demand o Sellers minimize production costs, and: <ul style="list-style-type: none"> - Inputs (capital, labor) are used in an efficient fashion - The most economically effective production technology is used o Sellers' maximum profits are kept to normal (risk-adjusted) profits o Buyers maximize their welfare by purchasing goods as a function of their relative prices and utility

for providers who charge lower prices or deliver care more efficiently.

(Cost-sharing requirements imposed on patients of course vary by service and by coverage.) Moreover, the common forms of cost-based hospital reimbursement and usual-and-customary-fee physician payment fail to reward economical providers. To the contrary, those who have lower costs or charge less are paid less. In contrast, normal markets allow efficient sellers to keep the difference between their lower costs and the market price. A major goal of pro-competitive reformers is to change health care financing.

Some critics suggest that, regardless of health care financing arrangements, consumers can never appropriately make good tradeoffs between medical services and other good things in life on which they could spend their own money (or that of an insurer or government program). Close evaluation of the price versus the quality of health care services can be almost impossible when health or life is threatened, and making such evaluations is difficult at the best of times. Health services are often technical matters for expert judgment, and patients are very dependent on expert advice. Well-informed health care consumers may well be rarer than they are for many other technical goods--especially at times of urgent medical need. Therefore patients rely on their doctors even more than other consumers rely on their lawyers, stockbrokers, or car mechanics. Observers vary considerably in how big a difference they see between health care and other goods and services in this regard. Pro-competitive advocates, for example, devote considerable effort to demonstrating that health care consumers can make good judgments with good advice.

Many ESRD patients constitute an extreme case of this general phenomenon. The period just after diagnosis of renal failure is enormously stressful for patients, particularly if failure had not previously been anticipated through regular monitoring. Such ESRD patients' judgment may well be imbalanced, leading to very strong dependence on their physicians' advice and judgment. For such ESRD patients even more than for medical care in general, it is important that financing arrangements not interfere with physicians' traditional role as agent for patients' best interests. (The agency relationship between patient and physician is discussed in greater depth below).

We therefore feel that pro-competitive, patient-oriented incentives are least appropriate for just diagnosed ESRD patients.* Past its initial stages, however, ESRD is a chronic disease. Most patients can expect long survival on maintenance dialysis. In the course of regularly repeated care, with continuous medical advice and frequent contact with other patients, many patients become very well informed consumers whose judgment, information, and preferences potentially enable them to make very good choices.^{1/} We therefore concentrate in this paper on maintenance dialysis, where choices are not so exigent, patients are more capable decision makers, and there is a reasonable role for patient-oriented competitive incentives. Maintenance dialysis is also the dominant form of ESRD treatment and accounts for the bulk of program spending. To a lesser degree, our discussion covers other treatments as well. Some of the pro-competitive measures discussed would restructure the entire Medicare program for ESRD patients.

Proposed pro-competitive reforms attempt to deal with how health services markets can differ from the competitive ideal. All contemplate that basic third-party coverage would be maintained so that sick people need not choose between impoverishing themselves or going without essential care. All rely to some extent upon physicians' acting as patient advocates and helping their patients make appropriate trade-offs among treatment alternatives. All expect that the biggest trade-off--namely, wages versus health care coverage--will be

* Ironically, the current ESRD program puts the greatest theoretical burdens on ESRD patients at just past diagnosis. By law, patients diagnosed as having ESRD do not generally become eligible for Medicare until three months have elapsed; those over 65 are of course already Medicare eligible. This three-month waiting period motivates early detection so that patients will be covered by Medicare as quickly as possible; moreover, Medicaid, state ESRD programs, private third-party payers, and charity mainly fill this gap. In practice, therefore, apparently few or no ESRD patients face catastrophic out-of-pocket payments for care rendered immediately after renal failure or for maintenance dialysis.

made by healthy people who can appropriately make informed, rational decisions.

One notable and significant aspect of pro-competitive ESRD reforms bears on the agency relationship between physicians and patients: this is the removal of potential financial conflicts of interest for physicians, so that they are free to act in their patients' best interests. As discussed below in greater detail, a major reason for changing providers' financial incentives is to achieve ESRD program fiscal neutrality for physicians in the choices among treatment sites and modalities. Correctly designed, competitive incentives for providers should leave physicians fiscally neutral as to where and how their patients are treated, in the sense that they are paid the same for equivalent services, however provided. At the same time, physicians and patients should be motivated to be technically efficient, that is, to seek the greatest quality or output of services for a given level of inputs, or for a fixed level of spending. If these economic incentives are combined with physicians' professional interest to properly treat patients, then the net effect will be to induce physicians to behave in a fashion which maximizes social and patient welfare. The incentives will push the physician to serve their patients' best interests--financial, medical, and otherwise.

Subsection D below considers in greater detail how competitive incentives may be reintroduced into health care financing and delivery, especially for ESRD. Before turning to that, we consider in subsections B and C how the current (regulated) ESRD marketplace functions and what is known about competition within the current marketplace.

B. The Current Rules of the Game

Governmental rules are central to the dialysis marketplace. We consider, first, payment rules (what services are paid for and how) and the financial

incentives they create and, second, rules affecting market structure (what providers are covered and how they are regulated).

1. Payment Methods

Medicare ESRD payment methods vary by mode of treatment and by site of treatment, in complicated ways also related to whether "Part A" (mainly hospital coverage) or "Part B" (mainly physician and facility coverage) is responsible for payment.^{11/} ESRD patients of course often suffer from significant non-renal complications, but non-renal services are covered and reimbursed under normal Medicare principles and thus warrant no special discussion here. Table 2 summarizes payment policy for ESRD-specific services. (See Table 2 on next page).

This brief summary is not exhaustive even for ESRD-specific methods and should not be relied upon for an accurate and complete description. We sketch only the broad outlines of payment policy needed to discuss pro-competitive strategies.

Most ESRD payments are made on a fee-for-service basis, and services are paid for differently depending upon how they are provided. Thus, different amounts can be paid for two services even if they serve essentially the same function and are substitutes for one another. Our major concern is payment for the principal ESRD service, maintenance dialysis, which varies depending upon whether the site is a hospital, freestanding facility, or a patient's home. About half of all maintenance dialysis treatments are provided in freestanding facilities, of which almost all have been paid uniformly at the screen level. The screen is approximately \$150 per dialysis (if lab services and physician supervision on the initial method are included). This implies an actual Medicare payment of \$120 (80% of \$150), which essentially serves as a flat fee. The details are less important than the general effect,

Table 2.

Basic ESRD Payment Methods^{a/}

Service	Payment Method	Comments
Inpatient hospital	Cost-based payment	Usual Medicare principles
Maintenance dialysis-- freestanding facility	Reasonable charges up to screen; screen rarely exceeded in practice ^{b/}	Effectively paid as flat fee or charge. ^{c/}
Maintenance dialysis-- hospital outpatient	Reasonable costs up to screen; in prac- tice, screen not infre- quently exceeded on exception basis ^{b/}	In practice, hospitals paid more than freestanding facilities, which may be justified by more severe case-mix. ^{c/}
Maintenance dialysis-- at-home	Has varied over time: Supplies and equipment generally cost reimbursed. Non-professional labor generally unreimbursed. Recent option of support- ing institutions being paid a fixed fee ("target rate" reimbursement) is not wide- spread.	Historically strong disin- centives to home dialysis. ^{c/}
Physician services-- maintenance dialysis	Either initial method (routine supervision within facility pay- ment, non-routine fee for service to physi- cian) or alternative method (capitation, plus lowered facility payment)	Capitation method is dif- ferent from usual Medicare principles, although it does compare to some surgical payments which cover pre- and post-operative care. Capita- tion rates are lower for home than for facility dialysis.
Physician services-- inpatient care	Customary-and-prevail- ing charges.	Usual Medicare principles

^{a/}These payment methods lack specificity since there have been changes over time.

^{b/}Somewhat higher payment applies for sessions featuring training for patient self-treatment.

^{c/}20% coinsurance requirement generally applied.

namely separate payment for different sites and modes, plus charge-based payment for maintenance dialysis.

The charge-based approach differs markedly from the cost-based payment applied to in-hospital care. Being paid a fixed charge motivates providers to produce dialyses at the lowest possible cost. Because facilities are generally paid the full fee no matter how much or little they spend producing a dialysis treatment, they can profit by minimizing costs (even if they are nominally non-profit firms). Capitation for physicians creates a similar economizing incentive.^{12-13/} Exactly the opposite of this economizing behavior results from the incentives of cost-based reimbursement, under which payments are reduced when providers hold down costs and only increased where costs rise. One consequence of paying a flat fee has apparently been that Medicare has not had to raise the screen since it was first set in 1973; indeed, as of this writing consideration is being given to lowering the screen. This is in marked contrast to ESRD payments made on a cost basis, which have risen markedly.^{1/}

However, because ESRD payments are per service, and since different sites are paid differently, neither patients nor providers can benefit by producing a different mix or number of services which might achieve the same medical results at lower cost. No one can gain by providing care at lower overall cost, for example, by substituting (cheaper) outpatient for inpatient care. Similarly, many observers feel that payment disincentives have significantly impeded patients from moving from facility to at-home treatment. (Neutral payment incentives would, in contrast, motivate decision-makers to choose the best price-quality trade-off for themselves.)

In general, patients have little incentive to economize, since almost all expenses are covered by Medicare. The program does contemplate some cost sharing by patients, notably the 20% Part B coinsurance. In practice, however, providers seem to collect almost nothing directly from patients. Instead, Medicaid and other sources seem to meet almost all of the theoretical cost-sharing requirements.

2. Market Structure

Supply restrictions have had the largest regulatory influence on ESRD market structure. In several ways, government and private parties have restricted the overall number of institutional providers of ESRD treatments as well as the number of dialysis stations (i.e., machines) allowed for any given provider and for entire geographic regions. Table 3 summarizes these entry restrictions. (See Table 3 on next page).

Since the outset of the ESRD program, government has limited the number of participating facilities. Pre-1973 facilities that had already been providing services were all initially grandfathered into the program, and no new facilities were initially approved. This freeze was lifted as planning requirements took effect, mainly involving certificate-of-need (CON) approval and network review of areawide needs and approval of individual facilities' applications. For each area, both the total number of providers and the number of stations each may operate are controlled. Planners thus seek to limit both providers' entry into the market and the total supply of dialysis care.^{1/} A major planning and regulatory standard is the Minimum Utilization Rate (number of dialyses per week per station, or machine) applied both to existing and prospective providers. MURs inhibit new entry and the transfer

Table 3.

Supply Restrictions on ESRD Providers

Restriction	
<hr/>	
1.	<u>Formal Mechanisms Used</u>
a.	Certificate-of-need (CON) and other planning restrictions on entry
b.	Medicare certification and recertification
c.	Networks' review of a & b, quality review
2.	<u>Restrictive Standards Applied</u>
a.	Need standards defined by planners, Medicare, ESRD networks
b.	Minimum utilization rates per dialysis station
c.	Requirement of hospital, home training and transplant back-up for freestanding facilities
3.	<u>Informal Restrictions by Providers</u>
a.	Potential for restrictions through ESRD networks, CON intervention & lawsuits, refusal to supply back-up support services for ESRD patients, quality review
b.	Unrelated to formal mechanisms: closed staffing, refusal to refer patients, etc.

of capacity from inefficient or low quality facilities to new providers that are more attractive to patients. MURs also impede free substitution of capital for labor. (See p. 73 below.)

In addition to these formal restrictions, the ESRD program also facilitates, inadvertently or otherwise, private actions to hold down the supply of maintenance dialysis providers. The statute and regulations call for all existing providers in a region to form a network with a representative

council. The networks' responsibilities include determining when and where additional stations are needed, promoting integrated service delivery, and monitoring the quality of ESRD care delivered. Their formal power derives from their influence on CON review and Medicare certification determinations. The network structure and the requirement of hospital back-up for freestanding facilities in particular give existing providers considerable formal leverage over their would-be new competitors. The network structure also facilitates informal cooperation in the interests of the status quo and against new entrants into the ESRD field or against unpopular providers (for instance, overly competitive facilities might be disfavored).

The main rationale for such formal and informal restrictions on the supply of ESRD services* is that supply must be limited in order to avoid overuse of services by patients and overspending by providers on too much or too expensive capital equipment.^{14/} Neither of these rationales applies with as much force to ambulatory ESRD care as to hospitals that are reimbursed on a cost basis by Medicare. Because ambulatory dialysis is paid charges and not costs, providers have no incentive to overinvest in dialysis equipment; if they do overinvest, Medicare need not pay more for the services provided even if they do cost more to produce. Charge-based payment also motivates providers to economize on personnel, an expense largely untouched by CON restrictions.

Even given charge-based payment, however, there remains the possibility that physicians might overprescribe dialysis treatments to increase their earnings. (An aside: if program administrators know this to be so, they may be sure that the price being paid for ESRD services is too high, or suppliers

* Some would argue that the restraints on supply were also motivated by a desire to insure the proper qualification of providers.

would not deliver more care than necessary because it would not be to their economic advantage.) Supply limitations may help address such a problem; CON limits on numbers of stations cannot eliminate all potential overutilization, however, since more treatments per machine can be delivered by lengthening hours of operation or by shortening treatments. Furthermore, supply restraints may provide other bizarre incentives, such as treating healthier patients first since they cost less and profit is greater, rather than using a limited supply for patients who are costlier to treat. To the extent there is a problem of overuse, direct controls over utilization might be more effective. They would certainly focus more directly on the abuse. If stations are available, a high price may motivate some providers to dialyze some patients who are not sick enough to warrant dialysis or to provide more treatments than medically indicated. Such abuses could be monitored by medical reviewers using objective data on health status where a facility seemed to exceed usual utilization benchmarks. (Today, utilization controls promote high usage by setting minimum utilization standards per machine to lower capital costs per treatment.) Moreover, the ESRD program can rely upon patients (and their referring physicians) to resist overservice, which patients have good incentives to do: they may to some extent share in its financial costs, and they certainly have to devote considerable valuable time to undergoing an unpleasant and risky experience. Thus, it seems likely that supply does not usually need to be limited to avoid overuse, and that CON limits, to the extent they serve their intended purpose at all, are inferior to other means of achieving the same goals.

Supply limits effectively give a franchise to approved facilities to serve existing demands for ESRD services. Such limits on entry prevent competition because new entrants are excluded and cannot win business by

offering better service or a lower price. Conversely, patients dissatisfied with their access to care or its quality cannot easily move to another facility because dialysis stations have been limited. Program administrators and health planners rather than patients and their doctors define beneficiaries' needs. That providers have mounted significant legal challenges against CON decisions shows that entry restrictions have indeed created profitable franchises worth fighting to obtain or preserve. On the other hand, entry restrictions and even the freeze on new providers probably have affected the supply of dialysis treatments less than it might at first glance appear because changes in medical practices and techniques have reduced the length of treatment and thus have enabled providers to deliver more services with their limited numbers of stations.

C. What We Know About Current Competition in Dialysis Markets

In the current context, since few patients make significant out-of-pocket payments, there is no significant price competition among providers. Non-price competition by providers for patients is still possible, however. The question then, is, do providers compete for patients, and if so, how? Are providers doing things which "keep patients happy" or which otherwise induce patients (or their physicians) to choose their facility over others because of the nature of the treatment provided, including its accompanying amenities. (We use "amenities" here in a neutral sense. We do not mean "frills" but rather the whole complex of non-lifesaving characteristics of ESRD treatments, such as convenience of access and staffing levels, that distinguish among dialysis units.)

There are no definitive measures of the amount of competition in dialysis markets. In fact, competition in the health industry is an elusive concept that few have even attempted to measure.^{16/} Despite these limitations, there

is much that can be said about competition in general and in the ESRD industry in particular. We divide our discussion into conceptual and empirical issues.

Conceptually, competitive markets are generally characterized on the supply side as having numerous sellers (providers in the ESRD case) with no impediments upon entry or expansion beyond the usual capital and labor requirements for new competitors who would like to provide additional services. It is clear that the ESRD industry, and most of the health sector, will never fit the classic competitive model; but few other real-world industries will either. However, abstracting from the ideal, there are nonetheless reasonable competitive criteria which can be applied to the dialysis industry. First, is there free entry into the marketplace by new providers or by expansion of old ones? Clearly the answer is no. Certificate of need (CON), other health planning legislation, Medicare certification, and networks' influence represent major impediments to potential entrants. However much current ESRD providers may complain about health planners, they should recognize that CON and the like reduce access to ESRD markets by their potential competitors. This statement is not meant as a general condemnation of health planning but merely notes that current health planning practice favors status quo providers and impedes competition.

However, even though there is limited entry into the industry, there could be competition for patients by existing providers, particularly if there were a reasonable number of providers in a given market. In the ESRD case, it is clear that many markets are too small for numerous providers. There are many other markets, however, which are large enough to support at least several providers and hence to allow competition.

What empirical evidence is there that ESRD markets are or are not competitive? An overview of available evidence suggests that competition in the ESRD industry covers the spectrum, ranging from competition in some markets to no competition whatsoever in others. One indicator of competition

is how concentrated the maintenance dialysis market is. Where market shares of various providers are small, consumers have a realistic choice among many facilities. Where most of the market is concentrated in one or a few providers, choice is limited. Table 4 shows ESRD market area concentrations based on an index computed from the market share of each provider (hospitals, freestanding, etc.) in each market. (We have assumed that a market consists of the relevant Standard Metropolitan Statistical Area, or SMSA, if in an urban area, or the relevant county if in a non-metropolitan county. This assumption is not ideal since some SMSAs undoubtedly contain more than one market area.) This "H index" varies from 0 to 1. Low values represent markets with numerous providers each having small market shares, i.e., areas usually thought of as competitive, while 1.0 represents monopoly with only one provider in the entire market. Table 4 shows that, in 1977, only 15 (or 4 percent) of all 369 market areas would be considered to have very unconcentrated markets (H less than 0.2).^{*} These 15 market areas contain 35 percent of all maintenance dialysis providers. (See Table 4 on next page).

Seventy two percent of the market areas (and 30 percent of the providers) were very concentrated in terms of the distribution of market shares. Approximately half of these monopolistic markets were in non-metropolitan areas.

* An H index value of 0.2 indicates low concentration of providers; for example, five providers each with a 20% market share. Some analysts, for other purposes, choose different H levels as indicators of low (or high) concentration. The Justice Department has announced that industry mergers leading to concentrations of 0.18 H value or more are suspect for antitrust purposes. Thus, our use of 0.2 is conservative, but any level chosen is arbitrary. The points to remember are that ESRD provider concentration could be much less and that some markets could be more competitive than they now are.

Table 4.

Distribution of ESRD Market Areas, By Market Concentration, and Market Size, U.S., 1977a/

Market Concentration (H Index)	Non-SMSA	SMSA Size (Population)			Total
		LT 300K	LT 500K	GT 500K	
0.0 to 0.2 (Many Providers)	0	0	0	15 (20%)	15 (4%)
0.2 to 0.4	0	2 (2%)	2 (5%)	26 (34%)	30 (8%)
0.4 to 0.6	1 (1%)	12 (10%)	12 (28%)	13 (17%)	38 (10%)
0.6 to 0.8	1 (1%)	5 (4%)	6 (14%)	10 (13%)	22 (6%)
0.8 to 1.0 (Monopolistic)	129 (90%)	99 (84%)	23 (54%)	13 (17%)	264 (72%)
Total	131 (100%)	118 (100%)	43 (100%)	77 (100%)	369 (100%)

a/ Data are based on the 1977 Facility Survey (See Reference 3). SMSA is Standard Metropolitan Statistical Area. It was assumed that the relevant market was the SMSA or the county in the case of non-SMSA locations. The H index is the Herfindahl index of market concentration or the sum of the market shares squared. LT is less than; GT is greater than. K is 1000's. In constructing the index, all providers of maintenance dialysis in the market area included.

Market shares vary considerably even across areas of the same population; these data thus suggest that differing levels of competition may exist in different dialysis markets.

One caveat is in order here. This analysis presumes that low market shares (low H) imply competition among dialysis providers. But this need not be so. For example, one could imagine impediments to patient choice which precluded competition among a large number of providers in one location. To take an extreme example, if a central planning agency geographically assigned all patients to their nearest facility, there could be no competition for

patients. Similarly, an area's nephrologists could conceivably agree informally to divide the market among themselves, thus precluding competition. While such possibilities are speculative, we clearly need more evidence than a low H value to demonstrate that a dialysis market is truly competitive.

Some corroboration for the competitiveness of low-H ESRD markets comes from the confirmation of a classic economic hypothesis about markets where government sets prices, as in ESRD. The hypothesis is that non-price competition will emerge in lieu of price competition. Thus, for example, in the era of tight Civil Aeronautics Board regulation of airline fares, companies competed for passengers by offering non-price inducements--frequent flights, convenient departure times, extra flight personnel, commodious seating, and (allegedly) gourmet food. Such non-price competition drives up costs to meet the fixed prices. Could such a phenomenon exist for dialysis services?

Briefly, we seek to observe whether, where the H value is low and where there is more competition for patients, providers' costs rise as they compete for patients by providing greater amenities, or supplementary services as part of their dialysis treatments. If costs do show such rises, providers in competitive markets should show lower profit than providers in less competitive markets, other things being equal. The non-price competition hypothesis has thus allowed us to derive at least two indications of competition for patients: greater extras or amenities for patients and lower profits for providers should be observed where competition is higher.

We have conducted two such tests using the H index as a measure of competition. In both cases, as shown in Table 5 below, the results confirm our hypotheses and suggest that the H index does provide an indication of relative competitiveness and thus that at least some ESRD markets are relatively competitive. (See Table 5 on next page).

Table 5.

Indications of Presence or Absence
of Competition in Dialysis Markets 1978^{a/}

Indicator	Remarks
<p>A. <u>Presence of Competition</u> Tests using the H Index of market concentration</p>	
<p>1. Higher patient amenities accompany lower market shares (i.e., more competition)--hypothesis confirmed.</p>	<p>1. The actual test was for a higher ratio of dialysis stations to patients, other things equal. The test was restricted to freestanding facilities in larger cities.</p>
<p>2. Lower "profitability" of dialysis providers accompanies lower market shares (i.e., more competition)--hypothesis confirmed.</p>	<p>2. The test was performed using a national sample of 650 dialysis institutions of all types. Other factors, such as unit size and area wage level, were held constant.</p>
<p>B. <u>Absence of Competition</u></p>	
<p>1. The existence of dialysis institutions larger than twice the break-even size leads one to question why competitors have not entered the market.</p>	<p>1. The issue needs more thorough analysis, but the preliminary indications suggest that competitive forces are not bringing more providers into the market. The most likely explanation is Certificate of Need Requirements which reduce competition.</p>
<p>2. Average cost per dialysis decreases as the dialysis unit increases in size, suggesting that costs have not been driven to a common level by competition.</p>	<p>2. Amenities competition (as found in A.1 above) should theoretically push all competing facilities toward the same level of costs but is not observed to do so.</p>

^{a/}See Reference 25 for details of A-1; Reference 27 for A2; Reference 3 for details of tests B1 and B2.

The first test involved an amenity--the peak load capacity of free-standing dialysis facilities, measured as the number of dialysis stations per facility patient. Higher peak-load capacity is a desirable amenity because, for example, it gives a patient a better chance of obtaining a desired appointment time, other things equal.* The analysis found that peak-load capacity was indeed greater where competition was higher. The elasticity was 0.13. This suggests that a 10 percent change in the H index would cause a 3 percent change in the peak load capacity.** This result may be criticized on the ground that peak-load capacity is too minor a benefit to confer competitive advantage although patients may have stronger views

Our second test, however, used a broader measure, namely provider profitability. Because of definitional problems with using conventional profits as a measure, we defined a dialysis institution's neo-profit more precisely, as total charges minus all non-physician costs. In other words, costs include supplies, nurses, rent, etc., but not physician compensation. Thus physician salaries are part of neo-profit.*** The hypothesis is that in order to attract and retain patients and physicians where competition is

* The analysis was restricted to freestanding facilities in cities of 100,000 or more population. Other factors held constant included the profit status of the facility, the size of the facility, the method of physician compensation, the size of the market area, the hours the facility was open per week, and the cost of inputs. See Held and Pauly in reference 27 for more details.

** Surprisingly the changes in market shares needed to change H by 10 percent are not as great as one would suspect. For example, in a market of four facilities with equal shares, a new facility would need only a 6 percent market share to change H by 10 percent.

*** While specifically identified physician salaries are included in neo-profit, there is the chance of physician salary components being included in an overhead account. Even if true, however, there is no reason to believe that such a situation would be correlated with the differences across H, i.e., the results would not thereby be changed.

higher, facilities will have to provide some inducement that will be reflected in higher costs and thus lower neo-profits

We measured the change in neo-profits which can be attributed to differences in competition across a national sample of 650 dialysis institutions. We used multiple regression statistical techniques which permitted isolation of the competitive effect, i.e., other factors were held constant.* The results showed that more monopolistic markets (higher H) were associated with higher neo-profits--just as predicted under non-price competition. In addition, the results were also fairly "elastic," in that neo-profit levels are reasonably sensitive to changes in competitiveness. The elasticity was 0.3, meaning that a 10 percent change in the H index would imply a 3 percent change in profitability.

In summary, both of these tests provide empirical corroboration that the market share index, H, appears to measure competition and that ESRD providers behave in the expected competitive fashion. Higher competition appears to lower profits for providers and raise amenities for patients.

As Table 5 summarized, while the foregoing suggests that some ESRD markets are competitive, there are also reasons to believe that some ESRD markets are not competitive. We can again cite two indications that parts of the ESRD industry are not competitive. First, it appears that competitors are sometimes unable to enter the market even when an established facility reaches twice the breakeven size. This is surprising because the fixed ESRD payment

* Other factors held constant in the multiple regression include the characteristics of the dialysis institution, including type (center, facility, hospital, etc.) size, profit status, method of physician compensation. Area characteristics held constant included population, percent urban, percent black population, and per capita income. The coefficient on H was statistically significant at the 0.02 level. See reference 27 for more details.

should allow multiple providers to be profitable. Let us explain: Previous analysis of the costs of dialysis by Held and Pauly^{3/} showed a declining average cost curve. This means that costs declined (rather rapidly) as facility size increased, whereas the fixed screen payment stays the same. Thus, very small facilities lose money, but as size increases costs fall and the facility became profitable. The breakeven point occurs when the payment rate precisely equals the average cost per treatment. For example, at a rate of \$150 per treatment in 1978, the average freestanding facility would break even at 3094 treatments (approximately 25 patients) per year. As the number of treatments increases, costs continue to fall, and at twice the breakeven point (approximately 6,188 treatments), the market can support two money-making facilities. At this point, a new competitor should be willing to enter. Below this point, at, say, 5,000 treatments or 2,500 for each facility, both providers would lose money, so the market will support only one.

Our analysis of this issue has not been exhaustive, but more examination of facility sizes would probably suggest that there are enough very large facilities to cast doubt on the existence of competition, since competitors should be able to enter such markets and reduce the market share of the existing providers. For example, in today's market, facilities which are fully three times our estimate of the breakeven size are not rare.

The second piece of evidence suggesting low competition for dialysis patients in some locations is similar. Given that the price for dialysis is basically set by the government's payment rate, competition for patients should take non-price forms where it exists, as already noted. Non-price competition such as providing more access and services should tend to drive all provider's costs toward the same level--i.e., the payment rate. In Held

and Pauly's cost analysis,^{3/} this was not found to be the case, i.e., average cost declined as facility size increased. Why would this occur? Why is not the average cost for all providers, regardless of size, driven more toward the same level (the payment rate), as providers compete among each other? The obvious answer would appear to be that providers do not compete in all areas.

While one can present alternative explanations to reconcile these apparent anomalies with competitive theory, our judgment is that the alternatives are not fully convincing.* We therefore conclude that dialysis markets appear to be competitive in some locations but not in all. Undoubtedly some of the noncompetitive markets result from the diseconomies of small-scale production in low-density areas, such as nonurban areas and small cities. But this phenomenon cannot explain all the instances of little or no competition. For example, consider again the data of Table 4. They show that there were 62 SMSAs of more than 500,000 population which had an H index of greater than 0.2: this indicates rather concentrated market shares in spite of the relatively large SMSA size.

* The alternative explanations have to do mainly with declining average cost as a consequence of returns to scale. The first firm to surpass the breakeven size may have substantial advantages in meeting subsequent competition. Because the first firm's costs continue to fall (as it grows), its average cost per treatment is well below that of any new competitor, and it can "spend" this advantage on higher amenities for patients, thus discouraging any new entrant from challenging its dominance. While plausible, this hypothesis is not ultimately convincing--certainly not for all cases of market concentration--because smaller new entrants have some advantages that are inherently unobtainable by large facilities, mainly dispersed locations much more accessible to patients and doctors as well as a smaller-scale approach to human services that many patients value very much.

Another problem for any analysis of competition and facility size is determining the actual breakeven size. The actual firm size at breakeven will depend on a number of factors including the local wage levels. Our discussion above used the sample averages to obtain the breakeven size of the average facility. More detailed analysis would examine each individual case in light of local wages and other factors that would be likely to affect breakeven size.

We might note at this point that, where it exists, competition for patients by providers under the current structure of the ESRD program does not lead to lower cost for the government because the payment rate is fixed. Competition, however, does lead to a shift of resources from providers to patients. Moreover, the demonstration that competition can work as predicted by theory provides support for the belief that restructured financial incentives, coupled with competition, could lead to both lower program cost per patient and better patient treatment.

D. What Increased Competition Would Mean for the ESRD Program

Most competition advocates speak of general health financing and delivery changes, not ESRD shifts. We therefore have to derive our discussion of ESRD from basic economic precepts and from the more general proposals for health financing and delivery reform. As we see competition, the key goal of the pro-competitive approach is to recapture some of the beneficial aspects of a perfectly competitive market within an insurance or government program structure of third-party payment.

Pro-competitive health care reformers seek to reintroduce attention to cost-quality tradeoffs, first, in the design and purchase of insurance coverage and, second, in providers' and patients' choices of medical services. The economizing incentives that competition gives to both producers and consumers have probably been the main selling point for pro-competitive reforms. Allowing more individual decision making is another attractive goal. The pro-competitive approach seeks to recreate many of the beneficial incentives of free-market competition without sacrificing the beneficial protections of insurance coverage for sick people. (Appendix I more fully describes a generalized model of pro-competitive reform for all health services. Interested readers will find instructive comparisons there with the following discussion of ESRD reforms.)

Table 6

Essentials of a Competitive Approach for the ESRD Program

Essentials
<hr/>
<ul style="list-style-type: none">o <u>Not</u> merely program cuts or dollar savingso Beneficiaries have multiple choice of providers, dialysis mode, and treatment siteo Decision makers (patients, providers, etc.) trade off conflicting goals (can gain or lose financially, in amenities, or in access)o Neutral payment incentives (same coverage and payment for equivalent care; providers face neutral financial incentives)o Same rules for all competitors (offering equivalent or substitutable services)

How, then, could policymakers increase competition in the ESRD program? Let us return to basic principles. Table 6 shows the essentials of competition.

We begin with what we do not mean by competition. Some pro-competitive advocates, when they favor more competition, seem simply to mean less government presence and lower government spending. Under some variants of such a view, any move to contain ESRD program spending would qualify for discussion--including reducing the scope of the program by reducing care to some beneficiaries or saving money by reducing provider payment levels. It is true that leaving some care essentially uncovered would put its delivery back into private markets, where cost incentives would encourage competitive behavior, although competition might simultaneously be discouraged by

regulation kept in place for the remaining government program. In any case, major program cuts in coverage (in people or services) that would shift public costs to private financing do not seem imminent, since they could seriously endanger a very dependent population. Nor would they go to the essence of appropriately structured choice among competing alternatives, with decision makers facing all the costs and benefits of their choices.

Similarly, cutting payment levels would increase incentives for providers to economize in producing services but would offer no really new efficiency incentives. We thus do not discuss such simple shifts further, although they may or may not be desirable policies. (Naturally, because we are concerned with the competitive model, we also largely ignore increased regulation as a cost-control option, although public utility regulation might be logical for communities too small to be served by more than one dialysis facility, for example.) Table 7 lists several cost-containment prospects which do not really create more competition. (See Table 7 on next page).

To continue with how competition can be designed for ESRD, we return to the rest of the basic principles set out in Table 6 above. Given the key goal we just discussed, of bringing market forces into a third-party payment program, the key method is to promote appropriate choices among competing alternatives by providers and patients who are correctly motivated to make tradeoffs in their best interests. Decision makers must thus be confronted with the need to weigh both benefits and costs appropriately in various contexts. Tradeoffs must be made, for example, among alternatives such as those shown in Table 8. (See Table 8 on page 40).

This list could easily be expanded. The point, however, is clear. The essence of competition is appropriately motivated choice. Patients and providers alike should be induced to make tradeoffs rationally and choose one

Table 7

Some Ways Government Might Reduce ESRD Program Spending
But Which Are Not Truly Competitive Reforms^{a/}

Proposal	Example/Remarks
1. Reducing Payment Levels to Providers	1. The government decides to reduce the maximum charge for maintenance dialysis from \$138 to \$128 per treatment; to reduce hospital payment to 98% of cost; to cap the payment rate and allow inflation to reduce the benefit level.
2. Shifting Costs from the Government to Private Insurers	2. The government decides to require private health insurance to cover the first year of a patient's kidney failure.
3. Changing Allowable Costs for Purposes of Reimbursement	3. The government decides to disallow bad debts or patient services such as television sets.

^{a/} No judgment of the correctness or appropriateness of these proposals is offered. It is only noted that they are not competitive reforms in that they fail to restructure choices within the ESRD program or to create new provider or patient incentives.

alternative over another only if it gives a more favorable balance of benefits and cost. Reemphasizing comparative costs as a major element in provider and patient choice among alternatives is one important aspect of pro-competitive reforms. In order to be fair and efficient, all types of care that are equivalent or substitutable for one another should be covered and paid for equally under the program. Another aspect is just as important: it must be assured that appropriate choices are available to be made. Choice among alternatives clearly presupposes the availability of alternatives. Most

Table 8

ESRD Program Tradeoffs To Be
Faced Competitively

Tradeoffs To Be Made Among:

- o Alternative treatment modalities (e.g., hemodialysis vs. peritoneal dialysis)
 - o Alternative treatment sites (e.g., in-hospital, outpatient, at-home)
 - o Alternative providers (e.g., facility A vs. facility B)
 - o Alternative methods of producing dialysis services (e.g., more dialysis stations with shorter facility hours vs. longer facility hours and fewer stations, more personnel vs. more dialysis stations, more patient self-help vs. more professional services)
 - o Alternative mixes of benefits and costs, such as better access to facilities vs. lower total spending (i.e., many small facilities would enhance access but raise costs, whereas fewer larger-size facilities would be less accessible but also lower cost because of significant economies of scale)
-

fundamentally, patients must be able to choose among--and move among--dialysis providers.

These, then, are our fundamental principles. Now, how could one go about implementing them for ESRD? Promoting competition is first a matter of market structure (e.g., free entry of providers) and then a matter of changed provider and consumer incentives. Table 9 summarizes the basic market-structure changes any pro-competitive ESRD reform should address. (See Table 9 on next page).

The Table is largely self-explanatory, but some additional remarks may be needed. Achieving deregulation and promotion of competition call for policy initiatives well beyond the ESRD program per se. State certificate-of-need

Table 9

Pro-Competitive Market-Structure Changes for the ESRD Program:
Deregulation of ESRD Marketplace and Promotion of Competitive Behavior

Strategies for Change	Impact/Remarks
1. Reduction of Entry Restraints on New Providers (Certificate-of-Need, Need-Based Medical Certification)	1. Unimpeded entry of new providers is essential to promote full competition; this proposal does not preclude quality minimum standards for all entrants.
2. Removal of Input Regulation Such as Minimum Utilization Requirements	2. Current regulation impedes efficient provision of dialysis treatments. Change would allow providers to choose best mix of investment (number of stations) and labor (personnel and hours) for given payment level.
3. Promotion of Competitive Behavior Through Provision of Information to Beneficiaries Regarding Provider and Treatment Choices	3. Better informed as well as more mobile patients are desirable.
4. Prevention of Anti-Competitive Behavior by Providers, Promotion of Competitive Behavior	4. Some aspects of network structure, e.g. determining need for new facilities, may inhibit competition. Available policy tools include antitrust, ESRD program regulations, positive incentives.
5. "Open" Staffing in Dialysis Institutions	5. Would improve patient ability to choose among providers and doctors among institutions. Open staffing does not preclude reasonable standards for staff privileges. Open staffing may or may not be appropriate to require through antitrust law or ESRD program regulations, depending upon precise market forces at work.

laws may operate independently of federal policy and might need to be legally preempted by federal legislation or regulation. (The same is potentially true

of state Medicaid or ESRD program requirements.) Medicare certification and networking matters are of course within the federal arena.

Promoting competitive behavior by patients, physicians, and institutions is clearly the most difficult task. Both markets--for physicians' and institutions' services--need attention. What constitutes desirable competitive behavior may vary according to the interrelations between doctors and institutions. Physicians are typically very influential in their patients' choice of dialysis facility. Thus open staffing seems desirable to effectuate choice among competing dialysis facilities, although one can imagine very competitive rivalry among alternative systems of complete dialysis care, similar to HMOs. Here, combined doctor-hospital-freestanding-facility-home-care organizations would each contain some providers and exclude others. Promoting provider competition would involve both antitrust enforcement and encouragement of desired behavior through Medicare regulations.

More competitive marketplace behavior and freedom from restrictions on supply of dialysis services are essential for patient-oriented competitive strategies which rely on patients' ability to choose among providers. Such market-structure changes are less important for provider-oriented strategies to be effective. Paying charges rather than costs, for example, works to minimize production costs whether or not providers compete--just as the maintenance dialysis screen has done to date.

Table 10 sets forth pro-competitive provider-oriented strategies. These would work (much as does the current screen) to motivate providers to make different economies according to the direction in which the payment system was changed. It is most important to the competitive approach that payment incentives be fiscally neutral. (See Table 10 on next page).

Table 10

Pro-Competitive Payment Policy Changes for the ESRD Program:
Provider or Supply-Side Incentives

Strategies for Change	Impact/Remarks
1. Equalized Payment Levels for Substitute Forms of Treatment, i.e., Neutral Payment Incentives	1. An example is paying maintenance dialysis same fee regardless of location where provided. Payments can be varied, however, based on indicators of patient severity or other indicators of the cost of treatment.
2. Expand Charge-Based Per Dialysis Payment System to Hospital and Home Care	2. With the notable exception of payment for dialysis in freestanding facilities, many of the current payments are reimbursed costs.
3. Expand Capitation Payment System to Cover More Services, such as All Dialysis Services, Inpatient Care and All Other ESRD Services, or All Medical Care For ESRD Patients	3. Currently capitation is voluntary and covers physician charges for all renal related problems.
4. Require Competitive Bidding for Exclusive Franchises	4. This is most appropriate for areas where only one economical facility is possible. The traditional answer to a natural monopoly is the regulated utility model, but this would not be a competitive proposal. Competitive bids could compete on price only, service content only, or a combination.

That is, there should be no payment disincentives against any one type of care that could substitute for another type. Otherwise, choices to increase efficiency will be thwarted. For instance, paying some services unlimited cost and others limited charges creates an enormous disparity in program generosity and skews provider and patient choices in the direction of the cost-based service.

If home care provides the same service as self care in a facility, for example, they should be paid the same. Then the more efficient method will win out and resources will be conserved for other uses. Determining what care is the same is, however, undeniably troublesome. Variation in patient health status is a key problem: some patients may need more or less than average medical supervision or otherwise cost more or less to serve. Equalized payment would put a burden on providers serving sicker patients, who would be penalized for treating sicker patients rather than for having high costs because of inefficiency. Thus, it would probably be appropriate to scale payments to health status or some other measure of expected cost. Such a provision would raise some administrative problems, primarily how to set the differential payment. (The same problem exists for capitation payments and vouchers discussed below.)

Going to capitation payment would similarly increase incentives on providers to be efficient. Capitated providers should consider whether each service is truly necessary and whether its benefit outweighed its production cost--because the providers can put the resources saved to other uses. This is a key difference from per-service payment; there a provider who forgoes a service to economize simply loses the revenue and hence is not motivated to reduce services. Per-service payment can thus motivate overproduction of services. Conversely, the danger of capitation is underservice: capitated

providers can benefit financially from shortchanging patients, particularly patients who require high cost care. (In the worst case, the ultimate economy may be a dead patient). Assurance of quality is an essential concomitant of capitation. Providers' professionalism, vigilant ESRD program monitoring response to complaints, and the threat of malpractice suits all offer some protection. Competition, however, would also provide ESRD patients with the opportunity to leave an underserving provider in favor of one more to their liking. While some will argue that ESRD patients are not good at changing providers, the possibility of choice should be open, particularly for new patients, who may offer the primary set of signals to providers.

The more services that are included under a capitation payment, the greater the possibility for efficiency gains by trading off more for less effective treatments and less for more expensive care. (In this and in other ways, capitation payment to providers is similar to voucher payment to beneficiaries.) Covering all needed medical care, not just ESRD care, is an especially intriguing possibility. (In fact, when complete services are not covered, there are incentives to shift costs to the sector not covered by capitation. For example, a capitation payment for maintenance dialysis can lead to shifting of costs to the hospital). ESRD patients may suffer many complications and side effects of ESRD and ESRD treatment. Making ESRD providers responsible for all care would help motivate the providers to give comprehensive quality care, since they would have to pay for correcting side effects of poor care. Similarly, broad capitation would encourage providers to provide proper maintenance dialysis to keep patients out of expensive acute hospital care as much as possible.

Another, smaller, quality problem deserves mention: capitation presupposes that one provider (or organization of providers sharing the

payment) will assume full responsibility for care during some period of time covered by the capitation payment. If the time period is too short, capitated providers may seek to postpone some needed care to avoid paying for it, particularly if patients cannot easily perceive the omission. Similarly, providers need a long enough time period to benefit from economizing changes such as training patients to self-dialyze. If the time period is too long, dissatisfied patients may be unable to appropriately change providers and providers may be able to underserve, even if patients do perceive it and even if patients have a competitive choice of providers. (It should be noted that any underserving provider risks acquiring a bad reputation and being avoided by future patients and referring physicians, and excluded altogether from Medicare.) These problems can be addressed in various ways but deserve consideration.

Capitation without competition seems unwise, since patients might be unable to escape underservice by changing providers. Note also that there could be serious implementation difficulties if federal payment is capitated but cost sharing is still required and Medicaid and private insurance still pay fee-for-service for each treatment. (The best solution to this problem would be for Medicare to assume full payment responsibility but to receive offsetting payments from other third parties thus spared their current liabilities. How this could be made to work in practice is a difficult issue, since over time non-Medicare third parties would surely seek to reduce their ESRD coverage.)

Competitive bidding for exclusive franchises, in areas which can support only one provider, would constitute a rather significant departure from usual health services delivery practices. However, it is not unheard of; some hospitals contract out for emergency room or radiology services with

independent groups of practitioners and change groups if dissatisfied with the price or quality of service. Bidding might well result in lower prices or total spending for the ESRD program. There are, however, good reasons to beware of quality shortfalls any time low-price bidding is undertaken. And the problems could be acute here, since the winning bidder would get an exclusive franchise and dissatisfied patients would have nowhere to go. (To some extent, physicians could help protect patients from facilities' underservice. And patients might be able to change physicians even if there were only one facility in their area.) Thus, careful quality monitoring, patient complaint hot lines, and so forth may offer potential advantages. Alternatively, the ESRD program could set a fixed price (or a maximum price) and have bidders compete on quality, choosing a winner on the basis of the best quality-price combination. If the resulting level of service seemed to be higher than needed or appropriate, a different price could be set for the next round of bids.

Exclusive franchises so limit patient freedom to change facilities and pose such strong potential quality concerns, that policymakers should approach this strategy with great caution. (However much our concern, it should be noted that the current system certainly grants exclusive arrangements and not only in small markets). Exclusive franchises should probably be adopted as a last resort, only for areas so small that they are unable to support multiple providers economically and so isolated that patients cannot travel for care. Clearly, any bidding strategy presupposes free entry of bidders, even though the winner would be entitled to exclude entry by the losers during the life of the exclusive contract.

Beneficiary-oriented approaches would constitute the greatest change from current ESRD program policy but simultaneously may offer the greatest potential benefit in terms of increasing patient welfare and perhaps also in program savings. Table 11 summarizes beneficiary-oriented competitive reforms. (See Table 11 on next page).

Going to vouchers offers the greatest potential pay off in improved patient welfare of all the competitive strategies. Each patient would receive a voucher worth X dollars for Y range of services over Z time period. The voucher could be given to a participating plan in exchange for a promise to deliver or pay for needed services. Plans might include conventional third-party insurers who operate much like Medicare, Medicare itself, HMO-like entities, nephrologist groups with reinsurance agreements: the possibilities are enormous. Similarly, the exact services covered and other design issues could vary enormously depending on the goals policymakers seek to achieve.

With vouchers, governments's obligations are relatively fixed--X dollars times the number of beneficiaries for whatever services are included. (The price per voucher should ideally vary according to a beneficiary's health status and other factors, as is considered below, but the average could be X dollars each.) Since beneficiaries would be liable for spending beyond the amount covered by the vouchers, they would be motivated to make efficient tradeoffs of the kind already discussed. They would decide whether a higher priced but more convenient plan or service was preferable.

To make economizing incentives parallel, beneficiaries could be allowed to keep all or part of any savings below the voucher amount. Savings could be taken in cash rebates or in the form of extra services beyond those specified

Table 11

Pro-Competitive Beneficiary-Oriented Changes
for the ESRD Program: Demand-Side Incentives

Strategies for Change	Impact/Remarks
<p>1. Voucher Plan--</p> <p>Coverage Could Vary:</p> <p>a. All Medical Care, ESRD and non-ESRD</p> <p>b. ESRD-Related Medical Care Only</p> <p>c. Maintenance Dialysis Only</p> <p>d. Transplants, may be a special case</p> <p>Beneficiaries' Financial Incentives Could Vary:</p> <p>a. Beneficiary Allowed to Accept Cash Rebates for Economizing on Choices of Care</p> <p>b. Beneficiary Required to Share Cash Rebate with Government</p> <p>c. No Cash Rebate; Beneficiary Can Benefit from Economizing Only Through Added Services, Higher Amenities, etc.</p> <p>d. Voucher Amounts Vary By Health Status Or Do Not</p> <p>e. Voucher Offered On Elective Or Mandatory Basis</p> <p>2. Increased beneficiary out-of-pocket cost sharing--</p>	<p>1. The specifics of implementation are quite complicated.</p> <p>a. While such a proposal is the most far-reaching and difficult, it offers the most promising set of incentives to rationally reduce costs and increase patient well-being.</p> <p>b & c. More limited approach likely to be most feasible politically and administratively.</p> <p>d. Unique medical circumstances and high initial cost relative to maintenance dialysis may make transplants somewhat harder to accommodate in this voucher approach.</p> <p>a. Minimum quality standards may be required. Would not necessarily reduce program costs.</p> <p>b. The higher the "tax rate" on the beneficiary's savings the less incentive there is to use care efficiently.</p> <p>c. Will not necessarily lead to lower program costs.</p> <p>d. Adverse selection by providers is a potential problem.</p> <p>e. Adverse selection by patients is a potential problem.</p> <p>2. This classic competitive incentive for consumers may be difficult to implement politically and technically.</p>

Table 11 (Continued)

Strategies for Change	Impact/Remarks
a. Would require mandate for actual out-of-pocket payment by beneficiaries to have desired effect of confronting them with tradeoffs.	a. Currently, Medicaid, private insurance, and provider charity (e.g., through bad debts) share costs. Change would be difficult to enforce and would raise issues of fairness given unequal patient wealth.
b. Would require government cash grants to assure reasonable access to care.	b. Because ESRD costs are so high relative to beneficiaries' own resources, extra cash would be needed to avoid impoverishing some beneficiaries or denying them access.
	Supplements might need to be tailored to beneficiaries' health status, like vouchers, to maintain relatively equal access. Despite this, cost sharing would increase role of (varying) private resources in achieving access to and quality of care.
	Supplements would entail major program reorientation; might jeopardize political support of ESRD as medical program.
c. Design of cost sharing could vary widely. Could cover some or all services. Could apply in advance (e.g., as insurance or prepayment premiums) or at time of service (e.g., deductible or coinsurance). Could have upper limit on out-of-pocket burden, with or without sliding scales of contribution (e.g., by patient income amount, amount of cost sharing already borne)	c. Specific design decisions would greatly affect incentives created for beneficiaries' use of services and for their personal resources required. As for vouchers, coverage of transplant services may be a particular problem.

in the voucher. Government might share in the savings so that it could economize as well. Overall ESRD program cost control over time would become a matter of whether and how quickly the voucher amounts were increased over time. (We discuss this at length in section IV.C.3 below.)

Vouchers would enable beneficiaries to choose their own providers (assuming increased supply-side competition as well), the form of provider payment they like (capitation, fee-for-service, etc.), and the degree of constraints on services they want (utilization review, cost-sharing provisions, etc.). Vouchers should thus maximize patient satisfaction for a given level of ESRD program support.

On the other hand, voucher systems would be administratively complex to implement, almost regardless of just what the voucher covered. (As Table 11 shows, many versions of vouchers are possible.) Perhaps the most immediate implementation problem is whether and how Medicare vouchers could be coordinated with Medicaid and private third-party payments, which now supplement Medicare ESRD payment. Coordination of payment policy is desirable because if other third parties continue to meet all or almost all costs of ESRD care above the voucher limit, beneficiaries will lack the intended voucher incentive to economize by choosing more efficient or cheaper care. Coordination of payment methods would seem to require either (1) that other third parties make their payments to Medicare, whose voucher would then be beneficiaries' only source of third-party support or (2) that other payers adopt "mini-vouchers" to accompany the main Medicare voucher. Either solution would be difficult to negotiate or legislate for multiple parties in the short run and in the long run would be likely to dry up non-Medicare support. This same problem exists for vouchers designed to cover all Medicare services (because Medicaid and private "Medigap" coverage supplement Medicare). But

the problem is far more severe for ESRD, since the dollar amounts involved for ESRD are typically so much larger.

In the longer run, a more difficult problem is "adverse selection." This insurance term is a name for the normal allocation of risks which results when people act in their own economic self interest. Adverse selection is not bad in itself (indeed, some level of it is inevitable), but it may in practice frustrate the achievement of important ESRD program goals. Adverse selection will occur any time that insurance premiums or payments do not closely follow actual or expected costs.

Examples help clarify the phenomenon. ESRD patients are likely to vary in how much they cost to treat--per treatment and overall. Where payment is the same for all patients, each provider has a financial incentive to treat only the less costly ones, leaving the more costly ones to be treated (at lower profit or even at a loss) by someone else. Where only one facility is involved, low and high-cost patients cancel out to the average. Where multiple facilities exist, competition may lead to "cream skimming" by those who succeed in attracting low-cost patients and adverse selection against those left to serve expensive patients.* Realignment of patients in this way saves no money in the short run, since the economizers have done nothing to conserve resources. Economizers' costs are lower only because they have patients who cost less to treat. Competition is meant to induce providers to economize by facing economic tradeoffs and making good choices--not by seeking out cheaper-to-treat patients.

* Attracting low-cost patients is easier said than done. In practice, they may be difficult to identify in advance with precision. Moreover, providers may have to offer low-cost patient inducements (i.e., amenities) to attract them--which raises the costs of serving them and increases total ESRD expenditures.

Worse, the highest cost patients (those whose cost to treat is above the payment rate) will get no care at all, since they are unprofitable--unless government takes steps to require providers to treat them. In the voucher context, the problem would be similar. Competing plans would seek low-cost patients with average vouchers and low-cost patients would seek higher services for their voucher contribution. The losers would be the less fortunate and less healthy high-cost patients and plans which serve them.

To avoid this sort of competition in risk allocation, voucher amounts should be tailored to reflect expected costs of service. That way, each beneficiary can get what is intended--relatively equal access to care--and competition will be more focused on achieving true economies. Competitive incentives call for payment to be the same per person regardless of which of several substitute methods of care is chosen; different payments for different people is quite consistent with competition.

This variable value-voucher approach is easy to explain but does pose some problems in implementation. What would be required is to set the value of the voucher in a way which tailors the amount to the expected patient costs. For example, pediatric patients would receive more than the average as would diabetic ESRD patients. The goal should be to prevent expected cost differences from blocking some beneficiaries from receiving adequate care.

Most other difficulties with vouchers are less severe and are much the same as those for converting Medicare or Medicaid to vouchers, which have been well described elsewhere.^{26/} We only touch upon the highlights here. Table 12 summarizes these problems. (See Table 12 on next page).

Table 12

Major Problems in Voucher Design and Implementation^{a/}

Problem	Remarks
1. Coordination with Medicaid and private third-party payment policies	1. Necessary but difficult
2. General level of generosity of vouchers	2. Too high a level is socially unproductive; too low will either curtail access to lifesaving services or reduce amenities below a level that is socially desired.
3. Relating voucher amounts to health status, other measure(s) of expected cost per beneficiary	3. Multiple levels needed to avoid severe adverse selection by providers that could threaten sickest ESRD patients with loss of access.
4. Phasing-in vouchers to assure that providers or other organizations exist to take vouchers in exchange for all covered care	4. Major change cannot occur without new organization.
5. If beneficiaries achieving savings are required to share them with program, how to properly set the level of this "tax"	5. A high tax will kill savings incentive; low one will yield no savings to program.
6. Whether to include non-ESRD services in voucher	6. Including all services gives good quality incentive, but may make providers reluctant to accept vouchers because patient costs are especially unpredictable and uncontrollable for non-renal services not overseen by ESRD providers.
7. Whether or not to include transplants in voucher	7. May need to be special treatment.
8. How long a period to cover under a voucher	8. Long period gives provider scope in which to make good tradeoffs, shorter period needed to allow dissatisfied beneficiaries to switch.

^{a/} This presentation borrows from the work of Frank Sloan (Reference 26).

Quality concerns for limited-contribution voucher systems parallel those for capitation payment, already discussed above. In the case of vouchers, however, the entire approach presupposes competing plans and providers among whom voucher-holding beneficiaries choose--so that quality concerns are diminished to the extent that beneficiaries can make providers compete on the basis of quality. In summary, the voucher approach is extremely promising in theory, but does represent some difficulties for implementation.

The second beneficiary-oriented change noted in Table 11 above is cost sharing. It is mainly of theoretical interest because it would require massive ESRD program shifts that are unlikely to occur. Explicit cost sharing could be designed to change patient and, ultimately, provider incentives. The goal of increased cost sharing is to make beneficiaries (and their doctors) actually face cost tradeoffs. To assure that these incentives are created and that costs are not simply passed on to Medicaid or other third parties, actual out-of-pocket payments for services would have to be required. This would be administratively difficult to do. (Beneficiaries could conceivably avoid per service out-of-pocket payments if an "HMO-style" option were allowed, under which--say--80% of expected ESRD fee-for-service payments would be available to beneficiaries to prepay a provider for all covered care.)

To assure equitable access to care, cost sharing could not be imposed without providing beneficiaries with additional cash with which to meet their new obligations. Like vouchers, cash grants might need to be tailored to health status. Adverse selection as such would not be a problem, but insufficient resources available to high-cost patients could still cause access difficulties. Maintenance dialysis, even all routine medical care, would be more easily administered. In practice, a cost-sharing-plus-cash plan would create almost identical incentives to a voucher-plus-cash-rebate plan.

For example, one voucher plan might feature a \$25,000 per average patient per year, with an 80% "tax" on savings, patients to keep 20%. Very similar incentives would be created by reducing government payment rates to achieve an expected outlay of \$25,000 in services, with patients to pay 20% coinsurance out of \$5,000 provided to them in extra cash.

Such a great restructuring of ESRD (or other catastrophic coverage) has been proposed in the past,^{7/} but is very unlikely to occur. Even leaving aside administrative problems, is it clear that building political support for a cash grant under a medical program is likely to be at best a long-term project. It is important to recognize, however, that even for relatively necessitous people, differential prices and out-of-pocket spending requirements could be useful allocative mechanisms--provided that available resources are sufficient for them to make reasonable tradeoffs rather than impoverish themselves or be denied adequate care.

IV. HOW A MORE COMPETITIVE REGIME WOULD ADDRESS SOME IMPORTANT ESRD PROGRAM ISSUES

In this section we describe in some detail what a more competitive set of incentives would imply for selected policy issues of the ESRD program. In Section IV-A we discuss Home Dialysis and in IV-B, Profits and Dialysis. We conclude in Section IV-C with a discussion of the Costs of Dialysis.

A. Home Dialysis

Few issues have raised as much controversy and required as much administrative and legislative attention as the debate over patients' dialyzing at home versus in a facility.^{15-18/} The issue's main source of public interest stems from the alleged cost savings, which the home dialysis advocates suggest could amount to hundreds of millions of dollars per year.^{19-21/} For such a large issue, involving major legislative change, the evidence for the lower cost of home dialysis has not been well documented.

First of all, one needs to define what is meant by "costs." An important distinction is real (total social) cost versus program (budget) costs. The latter costs are those borne by the government, while real costs are the total costs borne by society, which include the costs borne by the ESRD patient (and other third parties) as well as the program costs. Table 13 provides a simple listing of the real costs of dialysis by category, with an indication of whether or not the cost is included in program costs. (See Table 13 on next page). (Payment rules have changed over time, but this does not affect our general analysis.) As the negative signs indicate, there are two categories of cost which are covered by the program for facility patients but are not generally covered for patients who dialyze at home. These are the labor costs of the person helping the patient to dialyze and the cost of the physical plant or floor space. (There have been some provisions to pay for dialysis helpers or "paid aides" for home patients, but it is generally not the rule.)

Table 13
Real Costs of Maintenance Dialysis and Whether
Included or Excluded in ESRD Program (Budget)
Costs, by Location of Treatment

Cost Category	Location of Treatment	
	Center	Home
1. <u>Time:</u>		
Patient:		
Travel	-	- ^a
Waiting	-	- ^a
Treatment	-	-
Physician	+	+
Medical Aides (Non-Family)	+	- ^b
Family Dialysis Helper	-	- ^b
2. <u>Supplies and Services:</u>		
Durable:		
Dialysis Machine	+	+
Floor Space ^{c/}	+	-
Non-Durable:		
Dialyzer	+	+
Saline Solution	+	+
Other Medical Supplies	+	+
Electricity	+	-
Water	+	-
Telephone	+	-

Notation: + is a cost which is included in the ESRD program cost;
- is a cost which is excluded from ESRD program cost.

^{a/} Practically these costs are usually zero for home patients.

^{b/} Sometimes these costs are included.

^{c/} Includes modifications as required, heat and other services associated with the physical use of space.

1. Who Has Borne the Cost of Home Dialysis?

If home dialysis is less costly to the government, the main source of savings is probably from the shift of labor cost to the patient's family. This does not make the real cost less, it only shifts the cost from the program to the family. (Another example of cost shifting is the proposal that a patient's private insurance cover the first year of uremic therapy. Would anyone suggest that this action lowers the cost of dialysis?) Shifting cost to the family may well be the preference of society, and it may be in the best interest of some patients, but one should at least be honest about the economics. Shifting a cost is not the same as lowering it.

It may be argued that even with the ESRD program paying for home aides, i.e., persons who assist the patient to dialyze in the home, that dialysis at home is less expensive than in-facility dialysis. We are skeptical. While we have yet to see direct empirical evidence, there are good empirical reasons to doubt that program cost would be less in such a situation (and much less that the social costs would be lower). The average facility uses one staff person for every three patients. In the home it is one to one. The average facility has one dialysis machine for every three patients. In the home it is one to one. Undoubtedly, there are other economies in a facility, such as water purification and control of supplies. Furthermore, patients who dialyze at home are likely to be younger and healthier, which makes it very tenuous to extrapolate from the experience observed for the current home patients to the likely experience of current facility patients who might be persuaded to dialyze at home. Finally, in-facility dialysis shows substantial economies of scale, which means that to claim home dialysis is less expensive one also needs to say less expensive than dialysis in some specific sized facility. For example, in 1978 a freestanding facility providing 2500 maintenance

treatments per year (approximately 20 patients) had an average cost per treatment of \$153, while a facility providing 16,000 treatments (approximately 125 patients) had an average cost of \$129. This amounts to a difference of \$24 per treatment or 18 percent of the cost experienced by the average freestanding facility in 1978. Which of these average costs is more expensive than the cost of home care?

Whatever the final accounting of the numbers regarding home and facility dialysis, it seems safe to conclude:

1. The financial incentives in the ESRD program have historically been prejudicial against home dialysis. First, there has always been a lower reimbursement rate for home dialysis than for in-facility dialysis, both for the treatment and for physician services as well. Second, patients have had little or no ability to benefit financially by dialyzing at home. (A true competitive incentive would, in contrast, be fiscally neutral.)
2. Any program savings of home dialysis probably derive from shifting costs from the program to the family, primarily in the form of labor.
3. There is no technical reason for the actual procedure of home dialysis to be less expensive than dialysis performed in a facility. The same techniques are used in a facility where economies of scale and other factors offer potential for truly lower costs of production.
4. There are important noneconomic issues involved in the home dialysis debate, and these issues need to be more directly addressed. Undoubtedly home dialysis offers real advantages to some patients and real disadvantages for others. The world is not black or white and cost and benefits vary from patient to patient. It is important to have a system which allows them to be taken into account in deciding the proper treatment modality.

* Readers familiar with the home vs. facility debate will recognize that we have not yet discussed the possibility that home patients avoid some risks of facility treatment (e.g., infection, cross-contamination of equipment). We have several observations to offer: it is true that differences in risk should be weighed against cost differences in deciding what dialysis site is appropriate. It is premature and inappropriate for anyone to attempt to determine whether home or facility dialysis is less risky as a general matter. First, good data are unavailable. Conclusions drawn from current experience, whether anecdotally or statistically, are flawed because the populations at the two sites are likely to be different and because there is insufficient general agreement on how to quantify medical risks and benefits. Second, risks and benefits are always going to vary by patient and by location. Some patients will always more easily adapt to dialyzing at

(footnote continued on next page)

5. The program savings or losses which arise from home dialysis, after proper adjustment for the incomparability of the populations now dialyzing at home and in a facility and differences in aspects of the treatment (e.g., different rates of reusing of dialyzers), are not likely to be large enough to support all the previous acrimony and debate over increasing home care.
6. The cost of maintenance dialysis is only one aspect of the program cost for treatment of ESRD patients. We know little or nothing about the cost of inpatient care and what determines differences in this important element of social cost. These costs could go up or down with home dialysis and may be the real difference in deciding which is a less expensive mode of treatment.
7. Finally, if home care is cheaper, either to the government or to society at large, this does not mean that added incentives are needed to induce home care. What it means is that current incentives to decisionmakers (patients and physicians) inappropriately fail to include the ability to benefit from economizing. If there is a differential in cost, allowing decisionmakers to take advantage of it will save money. Creating a new incentive will actually reduce whatever cost differential may now exist because creating it will cost money (e.g., paying home patients or their providers a bonus).

One may ask at this point why we have emphasized that shifting cost from the program to the family is different from true cost savings. Is it not the goal of the government to save money? Yes, but not the only goal. Unquestionably, the government should not spend more than it has to to achieve a given goal, but the government should also obtain the most good for what it spends. If the goal is to save taxpayers money, there are many ways to reduce or shift costs in the ESRD program. For example, the government could end the program altogether. Less drastically, all small facilities could be closed, forcing patients to travel greater distances to be dialyzed in larger facilities which can achieve economies of scale. Or all patients could be forced to reuse dialyzers. Facilities could be prohibited from providing

(footnote continued from previous page)

home, some patients are inherently at greater risk of infection, some facilities are always more safely run than others--all such factors must be weighed individually for each patient by patients and their doctors. These factors are independent of the financing mechanism. The goal of payment rules should be to enable patients and physicians to choose the site of dialysis based on idiosyncratic personal and medical considerations, without establishing arbitrary disincentives to one site over another.

additional benefits such as meals and televisions and payment levels could thus be reduced. Patients could also be required to accept only partial assistance for dialysis (that is, to receive only minimal assistance from paid staff).

In other words, there are many ways to reduce program costs, but the policy issue is how to properly trade off cost savings with the loss in benefits. Should the savings (shifting) of home dialysis come before the savings of dialyzer reuse? Well, the answer depends on how someone values these two alternatives. Not all patients will value these alternatives the same way; and we would argue that their preferences should govern. A rural, high income, self-sufficient patient with a family may distinctly prefer home dialysis to a lengthy trip to a community facility. A poor patient who lives alone in a small apartment in a congested area served by many nearby facilities may find home dialysis objectionable. The point is that there are many ways to shift costs and reduce the taxpayer's bill. The policy choice is how to design a system allowing patients choices among alternatives so as to provide the most good for a given level of cost.

2. Suppose the Pro-Competition Advocates Had Their Way

What would various competitive proposals imply for home dialysis? Answers to this question depend on two aspects of the program. First, is there a uniform price structure, i.e., is the reimbursement rate the same regardless of where the patient dialyzes? (This does not preclude a different price according to a patient's severity.) Second, is there competition on the supply side only or is there also competition on the demand side, i.e., such that patients have financial incentives to make cost benefit tradeoffs?

Let us presume that there will be a uniform policy, i.e., the same payment regardless of where treatment occurs, since there is little reason to

recommend different rates. One may, of course, want to have a differential reimbursement rate for young versus old patients, etc., but reimbursing comparable patients who happen to dialyze at different locations at different rates is without merit. Substitutes should be reimbursed at the same rate.

Let us also presume that two other conditions apply. First, patients share in any cost savings, i.e., if they elect a treatment modality which costs less than the reimbursement price they can share in the savings. Second the entry impediments to new providers are removed. This then would be an ESRD program with very pro-competitive incentives. What would all this mean for home dialysis?

The principal advantage of the competitive proposal for home dialysis is that the decision of where to dialyze would be left to patients, their families and their physicians, and the impact of bureaucratic preferences would be diminished. Patients would have a real financial incentive to face the alternatives and compare the costs and benefits of the various treatment modalities. If a patient has a spouse who earns less than do facility employees, it might be preferred to dialyze at home. Or a patient may choose to use a paid home aide, with the cost being part of the total benefit level. If the patient's spouse has a real psychic aversion to helping in the dialysis process, this too will be considered in the decision. The decision will be made on the very personal grounds of what best suits this patient's needs. Table 14 summarizes the implications of competitive proposals for home dialysis. (See Table 14 on next page).

This decision process does not preclude a role for the physician in advising the patient and providing information on the alternatives; rather it

Table 14

Implications For Home Dialysis
If Competitive Proposals Were Implemented In The ESRD Program^{a/}

Implications	Remarks
1. The decision of where to dialyze (e.g., at home or in a facility) will be left to patients, their families and physicians; the impact of bureaucratic preferences will be diminished.	1. This is probably the most significant advantage of the competitive proposals for home dialysis. The entire spectrum of cost and benefits of treatment choices, which will vary from patient to patient, will be considered in the decision.
2. The implicit wage rate and psychic cost to family members or non-family members who assist a patient to dialyze will be properly considered in deciding whether to dialyze at home.	2. Most of the past proposals to reduce program cost by encouraging home dialysis have been based on shifting costs to the family regardless of whether the real cost to the family exceeds program cost savings.
3. Providers will be financially indifferent as to the location of treatment, i.e., providers will not have financial incentives to favor one modality over another.	
4. It cannot be said with certainty whether the number of patients who dialyze at home will increase or decrease, but the former is more likely.	
5. The cost of the ESRD program to the government may fall.	5. Whether and how much program costs will fall depends on: a. Basic benefit level adopted b. The split of savings between the patient and the government.

^{a/} Assuming: A uniform price or voucher value regardless of where dialysis is received; competitive incentives for providers and beneficiaries, i.e., providers compete for patients and patients can share in program savings.

highlights the physician's important role as patient advocate. The competitive incentives will, however, remove any financial interests to the physician in deciding where the patient should dialyze. Suppose, for example, a physician, Adam Smith, has a sizeable investment in a sparkling new facility which he would like to keep filled with patients. Consequently, the price he sets for home dialysis is high, perhaps \$140, while the charge for in-facility dialysis is only \$145. In other words, a new home patient would save only \$5 per treatment, not enough to make the difference. Suppose that home dialysis could be provided by other facilities in this area for \$120, or \$25 below the \$145 charged for in-facility dialysis at Dr. Smith's. Under the competitive proposals, there would be real financial pressure on Adam Smith to lower the price for home dialysis or else lose the patient to a competitor. Similar arguments would apply to a facility which only wanted to support home dialysis. Competition would pressure the facility to offer in-facility dialysis or face the loss of patients to competitors. The essential point is that a fully competitive model will remove any differential financial interest a physician has in where a patient dialyzes; then, the physician will be faced with only medical, ethical, and other criteria of how to treat a patient. Such a proposal would make the physician fiscally neutral as to the place of dialysis.^{22/} (Of course, patients may save or lose money according to what site is elected, and physicians may be responsive to this important patient interest.)

One cannot say with certainty whether the competitive model would increase or decrease the proportion of patients on home dialysis. The answer depends on patient and provider preferences for this form of care, the costs of supplying both home and other forms of dialysis, and just what financial incentives are created by the ESRD program. Under any form of payment, there

will be differences in the costs and benefits of home dialysis across patients. For example, it may cost more to deliver supplies to isolated households than to centralized facilities; conversely, patients may have to spend considerable time traveling to facilities. These differences create incentives that affect patients' and providers' preferences--but they are independent of the financing scheme. Under a competitive approach, the goal is to avoid distortions of these underlying economic and medical realities and to make the payment incentives themselves neutral as between different sites and modes of treatment. Our general impression is that the competitive proposals would increase the number of patients dialyzing at home, particularly if they let patients pay family members or paid aides for help in dialyzing, but this is only a guess on our part, based mainly on our past analysis of facility cost data.3/

Policy makers have been interested in home dialysis primarily as a method of saving the government money. Will competitive proposals in fact save the taxpayer money? The answer is maybe. Whether and how much costs will fall depends on both the basic benefit level which the government adopts either for dialysis or for the cost of a voucher for all of a beneficiary's medical care and on the split in savings between the government and the patient.

The adoption of competitive proposals would improve decision making about home dialysis because they would enhance patients' ability to make the cost and convenience tradeoffs between alternative methods of care. Providers would no longer face payment incentives to favor a particular form of care and would only consider medical and other nonfinancial criteria in advising patients. Finally, the government could possibly save money, but program cost reduction would not be the only benefit of such proposals. Patient freedom of choice would be enhanced, for example. Achieving program savings by forcing

people to dialyze at home, even if it could be done, is not especially attractive as a policy option.

B. Profits and Dialysis

A unique feature of the dialysis industry is the existence of a substantial for-profit sector, i.e., institutions which distribute some of the excess of revenues over costs to owners in the form of money. In 1977, for example, almost 45 percent of the maintenance dialysis treatments performed in the U.S. were provided in freestanding facilities, the majority of which were for-profit.^{3/} Since 1977, the percentage of treatments performed in for-profit facilities has probably grown as a percentage of the total. In the rest of the health care sector, only nursing homes and care of the elderly have such a large for-profit component, although for-profit hospitals seem to be expanding.

1. What is Wrong With Profits?

Many members of the ESRD community are quite concerned about this for-profit sector, particularly when physicians are the owners of these dialysis institutions.^{23/} Some seem to fear that increased competition would mean more profit-making behavior, which they see as undesirable. There are at least three reasons which might be offered for this concern about profits:

- o The "conflict of interest" argument: Nephrologists who own dialysis facilities have a conflict of interest in that their role as agent for the patient's best interest may conflict with their role as a financial entrepreneur.
- o The "shortchange the patient" argument: For-profit facilities, regardless of ownership, may provide less care to patients than not-for-profit facilities to lower costs and raise profits; the difference between revenues and cost is profit, and a goal of these institutions is to make profits.
- o The "induce unneeded services" argument: Providers seeking to make extra profits may provide more services than are medically justified either by overtreating needy ESRD patients or by classifying as needy

patients who are not truly in need. (This allegation is not necessarily inconsistent with the argument that each service given may shortchange the recipient.)

Many comments both pro and con can be made about these arguments against for-profit facilities. On an empirical level, for example, Held and Pauly^{3/} were unable to demonstrate that for-profit facilities used lower levels of resources (personnel, supplies, etc.) per treatment than did the not-for-profit facilities. For the purposes of this discussion, however, several more general observations are important:

(a) First, a necessary condition for a real conflict of financial interest over where a patient is treated is that providers' profits for facility dialysis are too high. If, for example, profit were zero, then a nephrologist who owned a dialysis facility would have no financial interest in where a patient dialyzes and consequently no conflict of interest. If profits are positive, is there necessarily a financial conflict of interest? The answer is no. It depends on how high profits are. Only when profits are too high (i.e., relative to what could be earned elsewhere) is there a conflict. We will develop this concept more fully below in discussing how competition tends to eliminate above-normal profits.

It may be argued that even if the profit for providing dialysis were zero, a nephrologist might still prefer to send the patient to his/her own dialysis unit, since the fees for physician services can be thus better protected from other nephrologists. But this is another example of the profit (in this case, fees) being too high. In other words, a physician who confronts these financial incentives to keep a patient is either being paid too much or is not doing enough for the fee received. The financial incentives in this example are not neutral. If the fees were lower, the physician would be financially indifferent between treating this patient and

what else he might do with his time, such as treating another patient. If the physician is using his/her role as the patient's medical advisor to keep patients from switching to a lower-fee competitor or to one providing more services for the fee set by the government, then the physician's fee is too high.* (We note also that if facilities had open staffing, nephrologists could not shelter their patients from their competitors within their own facilities.)

Another type of conflict may be more serious--i.e., where a patient costs too much to treat properly, the stimulus of the fiscal incentives would be to cease treatment. Currently, since physician services are billable on a fee-for-service basis and acute care in hospitals is cost reimbursed, high-cost patients probably seldom pose such a dilemma. Under capitation payment or a voucher system, the dilemma could become more troublesome. However, any such conflict would be created, not by the profit motive per se, but by any payment mechanism which placed flat limits on spending for a very sick patient--whether or not the provider were a profit-making entity. For example, HMOs face such dilemmas today, regardless of their form of ownership.

Criminal prosecution, malpractice actions, professional ethics, colleagues' opprobrium, public outrage, and other factors already offer significant protections against the possibility that physicians or other providers might cease treatment. Additional measures to counter undesirable

* A more proper interpretation of the issue of fees for nephrology services and profit from dialysis would treat the two incomes as one since they involve a "tie-in-sale." For example, a safety razor manufacturer could lose money on the sale of the razor but recoup the loss on sales of the blades, i.e., both items are important to the issue of profitability. So too with dialysis, it is the combination of nephrology fees and dialysis unit profits that are the proper focus.

side-effects of economizing incentives might be deemed appropriate if payment system changes significantly increase financial pressures on providers.

(b) Second, any problem of excessive profits--whether conflict of interest, shortchanging patients, or overutilization--is potentially a problem for all institutions in the ESRD program and in medical care in general. Is the nephrologist prescribing dialysis that different from the surgeon prescribing surgery? Do not not-for-profit institutions often make a profit? If there are benefits or perks to be gained by keeping costs below revenues (i.e., earning a profit), why should it be assumed that only for-profit institutions (or more correctly persons associated with such institutions) will respond to these incentives? Does anyone presume that patients cannot be shortchanged or overserved in not-for-profit institutions? True, for-profit institutions state their objectives (to make a profit) more clearly than do not-for-profit institutions, for which the goals are less obvious. But the potential for profits in not-for-profit institutions is real. Some have argued, for example, that the reason we have so many non-profit hospitals in the U.S. is precisely that they are more profitable (to physicians) than are proprietary hospitals.^{24/} Non-profit hospitals may use their profits differently--to subsidize other services, or research, or leisure for their staff. We do not know for sure what non-profit institutions do with profit, but above normal profit is potentially a problem for all institutions in the medical industry.

A final note on shortchanging and overutilization is in order: both arguments tend to assume that providers can do what they want with passive patients. We have already noted that patients can be protected by sharing information, by seeking advice from multiple nephrologists and from their internists or GPs, by the existence of some very demanding marginal consumers

and patient advocates, by some government regulation, and by competition. Being underserved or unnecessarily dialyzed is not fun, and at least some patients and their family physicians are likely to object.

Increasing competitive alternatives may offer the best protection against providers who do not serve patients' best interests. To the extent that incentives to under- or overserve are a problem, the problem already exists, and it exists for both non-profit and for-profit providers. If providers could make more money at current payment levels by dialyzing more or by providing fewer or lower quality services, they would be doing so already. Greater competition would not alter these incentives--rather the contrary. Competition for patients at existing payment levels would tend to increase benefits to patients because providers would have new motivation to keep patients satisfied. Lowering payment levels, on the other hand, would lower services--but, reducing payment levels alone is not a pro-competitive strategy, as we noted in Section IV. A above.

2. How High Should Profits, If Any, Be?

It might be suggested that there should be no profits in health care. If profits were zero, then there would be no conflict of interest for nephrologists; and where the cost of patient care equals revenue, patients are not being shortchanged, i.e., patients are receiving the full measure of what is being paid. These statements are true. Why then should profits not be zero?

The reason is that "normal" profits are a return on investment, and some return must be provided to the investor or no one will make the investments. Profits should be large enough to attract enough capital to the industry to finance the socially desired level of care. (This is the normal level.) But profits should be no higher. In other words, profit levels are proper when enough capital is attracted to the industry, whether in for-profit or not-for-

profit institutions. (Even not-for-profit hospitals have to invest money to open a dialysis unit.) Some philanthropists may donate capital for dialysis services with no expectation of a return; to this extent the need for capital and the profit to pay for it needed in the industry is reduced and so is the required return on capital.

If profit for investment in this industry exceeds that which can be made elsewhere with this same capital at the same degree of risk, then profits are too high. The profit level is correct or normal only where risk-adjusted return is equivalent. For example, when nephrologists earn the same rate of return on investment in dialysis facilities that they would earn elsewhere, say in the stock, bond or other markets, then their profit is socially correct--and they have no financial incentive to overexpand and treat people in their facilities who would be better treated elsewhere. They would be fiscally neutral between earnings through dialysis facilities and elsewhere. (Of course, as trained professionals they would still have medical and personal reasons to treat patients for a living rather than act solely as entrepreneurs. We do not mean to minimize the role played by non-fiscal incentives, but concentrate on fiscal ones when discussing payment reform.)

Whether profits in the dialysis industry are too high is not known with certainty. The willingness of new investors to enter the business suggests that profits are adequate but not whether they are above normal.

3. Relevance of Competitive Proposals to Profits

If profits are too high in the dialysis industry, leading nephrologists to have a conflict of interest, then either costs are too low or revenues are too high, since profit is the difference between these two quantities. To eliminate above-normal profits, revenues need to be decreased or costs increased. If revenue is lowered, perhaps by the government's reducing the

payment rate, what assurance is there that profits will not be maintained by lowering costs? (Note that banning for-profit institutions will not eliminate the problem of revenues' exceeding costs.)

As described above in the section on competition, one method of keeping costs close to revenues is to promote competition among providers. If, for example, a facility is making above-normal profits, then other investors will find that market a desirable place to invest their capital. Other providers will be attracted to the extra-profitable market or existing providers will expand. In most markets, new entrants (or existing providers wishing to expand) would lower prices to attract business. If the ESRD price is fixed by the government, competitors must attract new business by offering increased amenities to patients (or their doctors). Both marketing strategies act to lower profits toward normal levels. If regulation does not block expansion and if physicians are willing to deal with any reputable quality new facility, for-profit nephrologist-owned dialysis facilities cannot long reap above-normal profits. The changes envisioned under these competitive proposals will not happen immediately, but the motivation would be there for providers to enter the extra-profitable market; in turn, to attract patients, facilities must offer them more, and patients will have incentives to choose facilities other than the extra-profitable one.

It is appropriate to note here that promoting competition will not guarantee that facilities will never earn more than normal profits. Competition is not always perfect, any more than regulation is. In some markets, for example, demand for ESRD services is insufficient to support two profitable facilities, but more than enough to support one: there, a single facility could make above-normal profits because it can operate well past its break-even volume. Similarly, in any sized market, existing facilities may

have above-normal profits at the margin that are large enough to support an entire new entrant. Moreover, any national payment policy which sets flat rates for many markets (as does the current system) must to some degree over-compensate providers in some (low-cost) market areas in order to attract enough providers to guarantee access in other (high-cost) market areas. Under competition, however, the extra compensation will tend to be competed away in order to attract patients.

Some will argue that competition cannot work because nephrologists decide where to send patients. How will patients decide to go elsewhere? As we have already noted, over time it seems unlikely that physicians can monopolize patients if new physicians can enter. From the provider viewpoint, how can a newly opened facility obtain patients? If there is free entry into this market (certificate-of-need, for example, is removed), there are any number of ways to envision the competition to enter the profitable market. New nephrologists, of whom there are supposedly many, could start their own facility. Or existing units could expand and hire some of the new nephrologists. Or possibly facilities in other cities could choose to open a new facility in the market where profits are above normal. The essence of the pro-competitive answer to profits being too high is that costs will be bid upward to attract or keep patients (and their doctors) until the profit rate is lowered to normal levels, or a rate which is just sufficient to keep capital from leaving the industry.

Thus society would not be overinvesting or underinvesting capital to provide this service. (There should be no prohibition against institutions or persons giving their private capital to the industry with no expectation of return on investment. However, the government should not be giving capital to this industry unless it is believed that government funds are free, which is

of course absurd.) Moreover, patients would be receiving the full measure of the cost society is paying for their services. Under a competitive payment system nephrologists would have no financial conflicts of interest because whether and where patients dialyze would not affect their economic well being.

In addition, pro-competitive proposals would provide incentives to the providers to produce the most output for a given level of costs. The technology used, the mix of inputs, etc., would be that which provides the greatest level of output for the reimbursement rate. For example, research by Held and Pauly^{3/} has shown that in 1978 the minimum utilization requirements (MUR) for dialysis machines probably prevent dialysis units from achieving the lowest possible cost for a given level of treatment. The MUR restricts the number of machines a dialysis facility can use, and given the productive technology and the cost of inputs (labor and capital) the real and the program costs are greater than they need to be for a given level of total services. The dialysis units were operating with an insufficient number of dialysis machines. Under the competitive proposals, this situation would be unlikely to occur.

Thus far, we have considered competition among providers only. Voucher plans and other proposals which foster competition on the demand side as well would not allow payment levels to stay too high. If profits were too high, new providers could attract new patients from existing providers by offering the same (or better) service at a lower price to the patient or the program. When competitive incentives act on both the demand (beneficiary) and supply side (provider), the power to reduce the "too high" profits is greater than under only supply-side competition.

We should repeat at this point that one does not have to assume that all beneficiaries will become competitive shoppers for the pro-competitive

proposals to have their impact. As discussed above in Section III.C.1, competition can have its effects even if many patients are non-shoppers. It is that last patient recruited who is the most difficult and expensive to find; and, as long as that patient obtains good (and costly) care, profits are reduced.

C. The Cost of Dialysis

ESRD program administrators have repeatedly asked, "What is the cost of dialysis?" The question is stated as if there were only one true cost which, were it known, would be the amount to be reimbursed. In fact, there are many costs of dialysis because a dialysis treatment is a variable product with many dimensions which affect its costs. We will clarify some of these ambiguities about cost by addressing several questions:

1. What are the costs of dialysis?
2. What should the cost of dialysis be?
3. How do competitive proposals affect costs?

1. What Are the Costs of Dialysis?

There are many costs of dialysis, as the discussion above on home dialysis demonstrates. For another example, consider how the average cost per dialysis declines with increasing volume of services. Previous analysis^{3/} has shown that average cost of in-facility dialysis appears to decline quite rapidly over the range of 2,000 to 8,000 treatments per year, then drop at a much slower rate thereafter until flattening out at about 10,000 to 15,000 treatments per year. Whether average costs then increase at some larger facility size is uncertain, but the main point is clear: each point on this changing curve is a cost of dialysis.

Some observers may ask, "But what is the average?" Of course, there is an average cost. But to compute such an average misses the point that this

average is not immutable. Costs are a product of the ESRD payment and delivery system, and what costs are depends to a great extent on what society wants to spend on ESRD patients. If society wanted to double current average cost, providers and patients could clearly take steps to improve the lot of dialysis patients and nephrologists, and spend all the money made available. Similarly, costs could be made substantially lower by simply lowering payments; in that case, the benefits provided to ESRD patients would decline, but the lower figure would still be a cost of dialysis.

The larger lesson here is that the ESRD product will change in response to the price paid--i.e., spending levels determine costs and not vice versa. So instead of "what is the cost of dialysis," the question should be "what dialysis product will X dollars purchase?" Or "what is the average cost of dialysis with such and such characteristics?" Variable characteristics of dialysis include at least:

- o quality of the staff,
- o size of the facility,
- o patient complexity,
- o expected waiting time,
- o length of dialysis, and
- o number of times the dialyzer is reused.

Our point is not merely one of semantics, but rather to emphasize that the precise level of costs in the ESRD industry is a result of the financial system (primarily from the reimbursement policy of the federal government), not a cause of program spending.

2. What Should the Cost of Dialysis Be?

The answer to this question is a moral and social question. This is not an economic question, because the question more properly stated is: "How much

does society want to do for ESRD patients?" Or, "how convenient and comfortable does society want the ESRD patient to be?" There are no easy answers to such questions, just as there is no easy answer to determining how much the government should spend to make air travel safe (or require airlines and passengers to spend). More money can always be spent on improving air travel. Similarly, what the cost of dialysis should be is a dilemma for the political process. It is a dilemma similar to that of other programs such as highway safety, cancer research, and national defense. Economic and policy analysis can measure costs, and can help to structure ways to improve the social value of the program, but the level of costs must be determined by a process outside of the program.

Consider, as another example, "how much should we pay nephrologists in the ESRD program?" The answer is a standard economic response: pay the price required to obtain the supply of services desired. To pay more is to waste public monies; to pay less is to obtain insufficient services. In the former case we would attract too many physicians into the program, i.e., we could find some nephrologists who would do it for less (although, at the higher price and with more doctors, patients would have more choice). In the latter case, where the payment level is too low, we would find some nephrologists refusing new patients and choosing to emphasize another specialty.

The consequence of lower payment is thus that patients would find less access to care, and the question for the policy debate is "how much access to nephrologists should ESRD patients have?" Is there enough access now? If so, the price does not need to be raised--and vice versa. Economic analysis can, for example, show that as the growing supply of new nephrologists becomes available in the market, what the government has to pay for a given level of patient access will decrease, but the difficult issue is "how much access should patients have?" Analysis can pose the question but cannot answer it.

3. Relevance of Competitive Insurance Proposals to the Cost of the ESRD Program

If competitive insurance proposals were applied to the ESRD program, what difference would they make? Specifically, would competitive insurance proposals:

- o Indicate what the level of costs should be?
- o Change the composition of costs?
- o Lower program cost?

Determining the Appropriate Level of Program Costs

The answer to the first question is no, competitive proposals will not indicate what the level of cost should be. As discussed above, what the level of cost should be or, more precisely, what the nature of ESRD services determined by a given payment level should be is a dilemma that cannot be answered by designers of competitive proposals. The answer depends on how society wants to care for patients suffering from chronic renal failure. Competitive insurance proposals will help make the program more efficient but they are not a panacea which can enable us to avoid hard political choices.

Changing the Composition of Costs

While competitive proposals will not indicate what the level of costs should be, they will most likely change the composition of costs in a substantial fashion. Consider for example a proposal to allow more competition on the supply side. As already noted, providers facing more competition would be forced to respond more and more to patient or referring physician preferences. If there were above-normal profits, for example, costs would be forced up by competition, reducing earnings for owners of dialysis institutions and increasing the level of services provided to patients or their referring physicians.

If competition were also brought to bear on the demand side, there would be even more changes in the composition of costs. With equal reimbursement rates for facility and home dialysis, and with patients being able to share in the savings, there would likely be more dialysis performed in patients' homes. Similarly, there might be more self or partial assistance dialysis in facilities, with patients accepting lower levels of services in return for part or all of the cost savings. In other words, both the type and cost of services rendered would change.

Lowering ESRD Program Costs

It should be clear that not all competition acts to lower dialysis costs, prices, or ESRD program spending. The main example of existing competition we have been able to analyze, for example, is non-price competition in maintenance dialysis. In this market, the ESRD program has set the dialysis price, and facilities have competed for a share of patients (and their physicians). Where effective competition exists, it tends to put upward pressure on dialysis production costs, presumably as facilities provide better access, more services, and other attractive offerings. Patients, of course, receive more benefits, but the cost of the total package remains equal to what the program pays. Competition can clearly increase beneficiaries' welfare for a given level of spending.

A major appeal, however, of the pro-competitive approach to health care generally is the prospect of significantly reduced health care spending with little loss in health benefits. ESRD reformers are also likely to seek program savings through competition. Can this be done?

Yes, to a degree. One can envision at least three circumstances where program cost might be lowered by competitive proposals. The first two are examples of provider-oriented payment reforms:

(a) The government solicits competitive bids for bulk purchase of dialysis treatments from among a number of potential providers and accepts the lowest bidder of acceptable quality or the best bid on a combination of price and quality. For example, the government seeks bids for a provider to provide 10,000 dialysis treatments of a given specification over a one year period for the city of Memphis, Tennessee. (Alternatively, the contract could specify capitation bids for a year's care for 70 patients.) Such applications of competitive proposals might be appropriate for small markets where a natural monopoly exists.

(b) If a list of potential competitive actions is expanded to include a global capitation charge which covered all renal (or even all medical) related services for ESRD patients (not just dialysis), then one could envision cost savings for non-maintenance dialysis services such as hospital care. Hospital inpatient care for dialysis patients is typically reimbursed under cost provisions, and a shift in incentives for prudent management could possibly effect substantial cost savings.

Such a proposal would in effect be a total restructuring of the program's incentives. Providers who accepted a fixed level of payment for the provision of all medical care required by ESRD patients (e.g., \$25,000 per year) would be facing coherent incentives to minimize the total cost of care, in striking contrast with the current scheme, which reimburses for a patient's care across an entire spectrum of providers with no integrated picture of which mix would be the least costly. There is no inherent reason for the current delivery system to be inefficient, i.e., conceptually there is some set of provider prices which would produce care for the least total program cost. But practically, the current reimbursement system has a mixture of settings, each with different payment policies and with no apparent consideration of the resulting

incentive effects across different providers. For example, there is no consideration of how the rates paid physicians for maintenance dialysis may affect the use of inpatient care.

Under this global capitation system, one could envision real program savings, i.e., a given level of patient welfare could be achieved at lower cost. It would be difficult, however, to determine in advance what the capitation rate should be. For example, it might be set too high in the sense that a higher than desired level of welfare would be achieved. With better foresight, the desired level of care could thus have been purchased at a lower rate. The same is true on the down side, i.e., the rate might be set too low. Costs would still equal the capitation rate, but the level of services and patient welfare would be lower than desired. A practical, although by no means ideal solution, would be to set the rate, perhaps on the high side, and observe the results.

A criticism of this "set the rate and observe the outcome" approach is that such a process could be used as a politically easy method for reducing benefit levels. Critics could suggest that such a process is really a way to "cap" the benefit level. The level could be set, and then not increased with inflation, so that the real benefit level would decrease over time.

The simple truth is that any ESRD provider payment reform, not just the competitive bidding and capitation approaches just discussed, can save the government money if the government decides that less service is enough and simply pays less. Saving money on ESRD payments is that simple. It merely requires an arbitrary decision on how much is enough, a payment schedule to translate this into payments (capitation does so most predictably), plus the political will to make the resulting level of service stick. Nothing in the provider-oriented competitive payment reforms we have discussed, however,

offers the government a way to decide how much spending is enough. To use such approaches, government must simply make that political decision and take the political heat.

(c) Only one type of pro-competitive reform offers government a way to bring private choices into the political decision of how much to spend on ESRD. This third cost-lowering strategy we discuss here is the voucher approach, the major beneficiary-oriented reform. Vouchers would allow patients to benefit from savings they make through their economizing choices. Either cash or extra services might be available, and limits on allowable savings are appropriate to prevent dangerous overeconomizing by patients.

Over time, different ESRD beneficiaries would thus reveal how much medical care they really want (relative to cash or extra services), by exercising their preferences for various types of ESRD treatment versus cash. Of course, how much they really want is still a function of their available resources, mainly the amounts of the ESRD vouchers. If the initial voucher amounts were set far below current program spending, patients would probably want more than they could afford. The initial voucher levels would have to be set much like the capitation levels just discussed--guessing at a starting point and observing the results over time. If the original vouchers were set near current spending levels, one might hypothesize that all or most beneficiaries would decide over time that less than current levels of care (or a cheaper mix of services) is enough. But such patient decisions--although instructive about their preferences--would not save the government money unless patients are made to share some or all of the savings they make.

Taking away savings earned by patients in one year by reducing the effective government contribution in the next year would be very unpopular and ultimately counter-productive. In the year following recapture of their

savings, people would anticipate similar action and not bother trying to save more money that would only be lost to the government later. The way out of this box is to take only part of any savings and to do so prospectively by telling patients in advance that they must share savings with the ESRD program. The more government takes for itself of any savings, however, the less incentive patients will have to economize in the first place. The government share is essentially a tax, and as the tax rate increases, patients' incentive to save diminishes.

Nonetheless, a voucher system might over time slow the rate of growth in ESRD program spending per patient. (But note that spending per patient has not historically been the major source of growth in total ESRD spending). Under the current system, limiting government payments to providers at some point can be expected to become politically unpopular because patients may not find sufficient care. Since they are the intended beneficiaries, the political pressure for increased provider payments is apt to be considerable, as patients and providers join forces to lobby for more. In contrast, under voucher competition, if patients can save money or increase welfare by rearranging services themselves, much of their effort may be deflected into using competitive behavior to obtain the best combination of services from their individual providers. As a result, future political pressure on government to raise voucher levels might be lower than pressures to raise provider payment levels given the current approach.

One potential side-effect of competitive approaches, particularly patient-oriented ones like vouchers, deserves mention because of its deleterious impact on beneficiaries. The danger is that competition might be used as a cover for simply cutting voucher amounts arbitrarily, regardless of whether patients are able to save equivalent amounts by reallocating their own

debates over the full range of benefits and costs. Today both the benefits and costs of the ESRD program are rather diffuse, but the Medicare administrators must consider both because Medicare sets both. Were the voucher approach adopted, obtaining benefits above minimum quality standards would become the province of beneficiaries, and program administrators might be even more tempted than today to focus almost exclusively on spending.

Fourth, making ESRD a dollar entitlement program (with vouchers) rather than a medical entitlement program might well reduce the willingness of taxpayers and politicians to fund it. As we have said, Medicare spending sets ESRD treatment costs and not vice versa. Even if competition does not markedly reduce costs it might reduce public willingness to spend. A major virtue of competition is that it would let patients get extra benefits for the same price (e.g., higher quality care, more attendant personnel, more comfortable surroundings) or the same benefits for a lower price (perhaps thereby getting cash under a voucher system). These competitive benefits to patients have the defects of their virtues: if they make people perceive the ESRD program as one which provides personal benefits (like comfort or cash) rather than solely lifesaving medical benefits, politicians may be less willing to fund it. In-kind transfer programs are generally better supported than cash transfers. For example, cash welfare benefits are less popular than medical Medicaid benefits or food stamps. There might also be considerable public antipathy against allowing some public beneficiaries to profit from their personal economizing choices under a competitive plan--just as many now dislike the current possibility for provider profits.

The probability of such covert cuts should not be overstated. Many other factors are involved, not least of which is how fiscally hard-pressed the government may be to cut spending. However, the point remains: anyone deter-

mined to cut arbitrarily may do so somewhat more readily under a competitive regime. We emphasize that this prospect is independent of the purpose and main beneficial effects of competition as we see them, but it is nonetheless real. The main safeguard against unreasonable economizing by public agencies, however, is the same under any form of ESRD program organization--a humane administration which carefully weighs both the costs and the benefits of its actions and which is held politically accountable for them.

V. CONCLUSION

The foregoing discussion of competition and costs highlights the importance of considering both the pros and the cons of each possible pro-competitive strategy. We have attempted to illuminate both pluses and minuses in this paper, although the former may have received more attention than the latter. Our discussion is somewhat theoretical, both because data on existing

Table 15

Major Potential Benefits and Criticisms
of Competitive Insurance Proposals for the ESRD Program^{a/}

Potential Benefits	Potential Criticisms
<ul style="list-style-type: none">o For a given level of public financial support:<ul style="list-style-type: none">a. Improved welfare of patientsb. Patient sovereignty over the programo Program or budgetary savings are possible depending on the strategy adoptedo Least intrusive government directives to providers and patientso Neutral fiscal incentives for providers permit patient preferences and medical benefits to govern treatmento Removal of potential provider financial conflict of interesto Removal of any above-normal profits from both profit and non-profit institutionso Assurance that the methods of treatment are economically efficient, i.e., the most output for a given level of spending	<ul style="list-style-type: none">o Competitive rhetoric will be used as a ruse for the political process to reduce benefit levelso Patients can't make informed choices, i.e., patients will not make appropriate choices of medical careo Provider financial interests will dominate patient interestso Vouchers are administratively complex and difficult to implemento It will be politically difficult to allow patients to take cash or non-medical services as a reward for economizing behavior, particularly since Medicaid or private insurance is usually the last payer for ESRD services

^{a/}These brief statements of benefits and criticisms naturally leave a substantial amount unsaid.

competition are sketchy and because there is no generally agreed-upon pro-competitive model for ESRD as there is for health care reform generally. Table 15 below attempts to summarize the main arguments for and against the general notion of competition.

Many of the objections to the introduction of more competition in ESRD markets express doubts about the administrative feasibility of implementing such an approach and how well patients could respond to competitive incentives--both of which should be illuminated by further research and policy analysis. The main drawback is that competitive rhetoric could be used to mask outright cuts unsupported by competitive philosophy. This negative is balanced by the reality that arbitrary cuts are a danger inherent in any payment reform. On the other hand, the potential benefits of competitive measures are considerable, and there is some empirical evidence that ESRD patients' welfare has already been improved by competition among maintenance dialysis providers for patients in some markets. Movement toward pro-competitive reforms seems to us feasible and desirable. Readers must of course make their own evaluation; after all, the marketplace for ideas is a highly competitive one.

Appendix I

The Pro-Competitive Strategy for General Health Care Reform

Proposals vary considerably, but all pro-competitive plans seek two levels of reform.^{8/} First, they seek to change the marketplace for health insurance by making insurance premium payers more cost-conscious. This is to be accomplished by ending or limiting the currently open-ended tax breaks for buying health insurance. Current law makes it more attractive for most workers to accept, for example, 75 cents worth of additional health coverage tax free from their employers than an extra dollar in (taxable) cash compensation. (In the case of public programs, vouchers have been proposed to offer similar incentives for program beneficiaries even if they do not have to spend their own money for coverage.) A multiplicity of insurance plans are then expected to compete for insurance buyers' business by offering the most attractive combinations of benefits and cost control. ("Insurance" includes commercial insurers, Blue Cross/Blue Shield plans, and alternative plans like HMOs or capitated primary care networks.)

The reform of the medical services marketplace is the second level of change sought by pro-competitive advocates. It is expected to occur as insurers compete to hold down medical costs and offer attractive benefits. To be successful in holding down costs (and therefore premiums), an insurer would have to alter the way medical services are paid for and utilized. This requires that plans act in various ways to alter the incentives faced by medical providers and patients so as to affect their use of resources. Proponents vary considerably in their expectations about the precise way plans would control expenditures and monitor benefits and quality. Table A summarizes the pro-competitive approach.

Table A

A Synthesis of General Pro-Competitive Proposals
for Health Insurance Financing and Delivery^{a/}

Proposed Reforms	Remarks
1. Health Insurance Market(s)	1. Pro-competition reforms anticipate that change will originate with more cost-conscious decisions about health insurance coverage.
a. Insurance consumers are offered multiple choice among competing alternatives for third party coverage.	a. Some proposals would mandate multiple choice, others would rely on competitive forces to create more plans to be offered. Plans to be offered include commercial insurance, Blue Cross/Blue Shield plans, HMOs, or other alternatives. Many proposals would mandate minimum coverage, other standards for all plans.
b. Insurance consumers are benefitted or penalized financially to full extent they choose plan that is more or less expansive--and expensive.	b. Consumers may be private or public beneficiaries. Intent is to make them cost conscious in selecting plans.
(1) All government support for health insurance to be made equal across plans (for private and public coverage).	(1) Current tax break for employer purchase to be made equivalent for all plans--no longer open-ended tax subsidy which favors more expensive plans. Non-group individual insurance buyers could be given equal tax credits. Public program beneficiaries could be given vouchers to purchase one of competing plans.

Table A (continued)

Proposed Reforms	Remarks
	Rebates of any savings under voucher may or may not be allowed, tax-free or not.
(2) Employer contributions to be equal across plans	(2) Employers also to give equal dollar amounts toward competing plans.
(3) Support may be scaled to support needier people more than less needy.	(3) The principle of subsidizing all plans equally means that each person gets the same amount regardless of plan chosen. Different people may get different support, reflecting their ages, health status, etc. This differential support would help reduce adverse selection.
c. Equivalent requirements are applied to all competing plans	c. All standards imposed for quality, minimum coverage etc., to be the same for all competitors.
2. Health Care Services Markets	
Competing plans seek to keep premiums low through various controls and incentives on medical services delivery, including:	Competitive proposals typically do not mandate how plans are to act but rather expect competition to force plans to trade off costs and benefits appropriately, as they see fit. Examples given below are illustrative, not exhaustive.
a. Provider-oriented controls and incentives (fee controls,	a. Some proposals would require that all providers

Table A (continued)

Proposed Reforms	Remarks
HMOs, exclusion of some providers from coverage, peer review, etc.)	be organized into competing groups.
b. Consumer-oriented controls and incentives (claims review, prior authorization requirements, cost-sharing requirements, etc.)	b. Variations in cost sharing are perhaps the most notable difference among plans. From very low (e.g., HMOs) to very high (e.g., low-option or major-risk plan).

^{a/}Pro-competitive advocates have offered many variants of these basic ideas. Not all are consistent with every aspect of this presentation.

The pro-competitive proponents assume that consumer choices will principally be made at the time of buying insurance (or choosing one plan with a public voucher). Thus, costs and benefits can be weighed at a time when the decision makers are healthy and not in dire need of care for themselves or their families. Their plans must translate these choices into directives to providers and patients: an HMO may directly control physician staff, for example, or a high cost-sharing policy may rely on patients' own economic self interest to control choices of medical services. Few proposals are specific about what mechanisms markets would evolve to meet these requirements; their concern is creating correct incentives, not mandating particular results.

The generalized pro-competition financing model just discussed cannot be directly adapted for the ESRD program. The main reasons for the differences between reforms for private health insurance and for ESRD are shown in Table B on the next page.

Table B

Significant Differences Between General Health
Insurance and Proposals for the ESRD Program
That Are Relevant to Pro-Competitive Initiatives

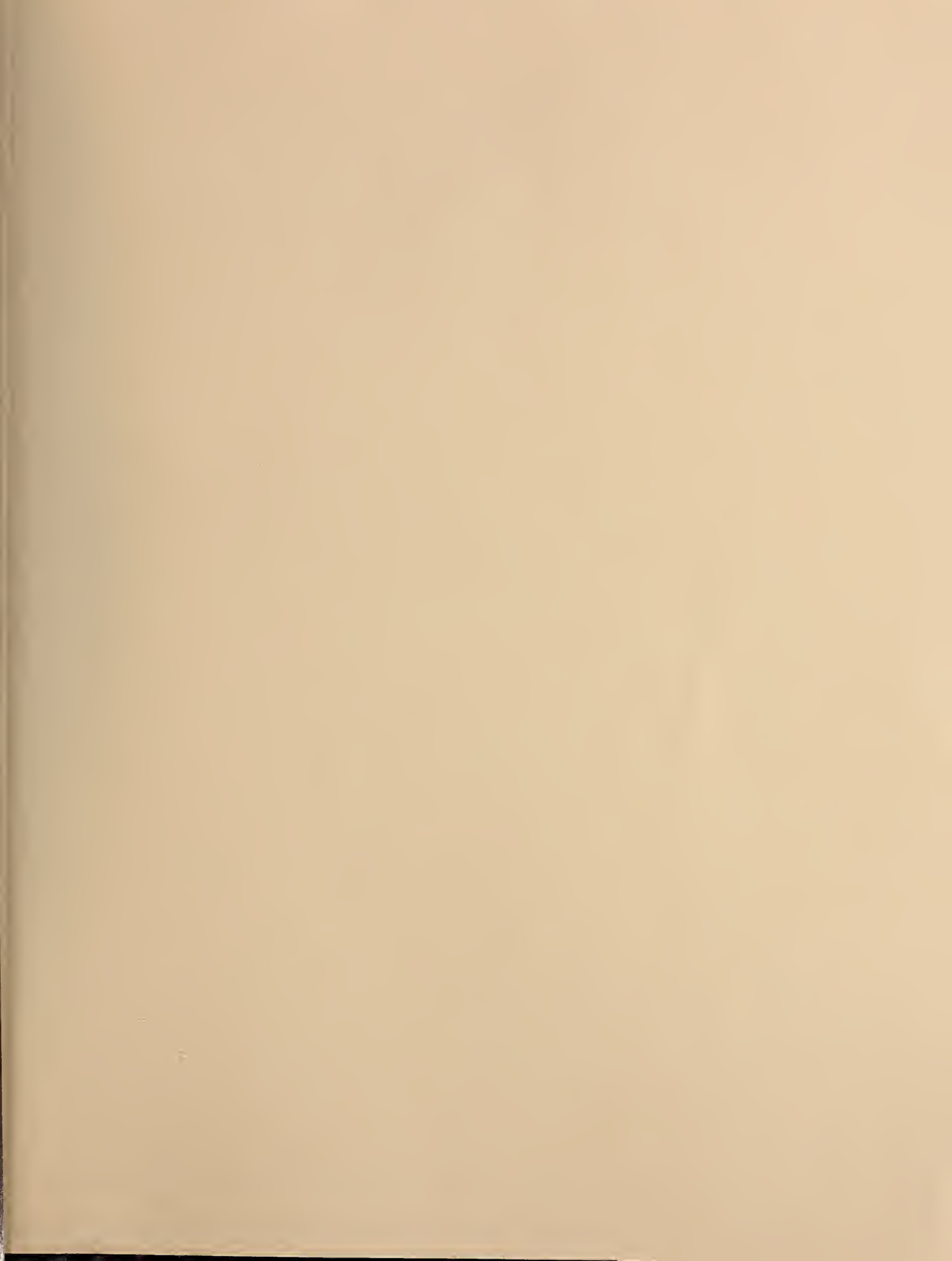
Difference	Remarks
1. The ESRD program is not an insurance program, but a social welfare program which purchases services for a defined population.	1. Beneficiaries in the ESRD program do not pay significant premiums and they do not share financial risk of future events with other persons in the program.
2. The spending and benefit levels of the ESRD program are politically and socially determined, and financed by government, while the individual (or group) beneficiary of general health insurance determines and purchases the benefit level desired.	2. In the case of general health insurance, the beneficiary contracts for a level of benefits before using medical services. Most ESRD beneficiaries receive benefits as a consequence of their medical condition; benefits are program determined, although patients may supplement coverage with personal resources or insurance.
3. Significant patient cost sharing, which is one strategy for the general health insurance model, is a less viable option for the ESRD program.	3. ESRD beneficiaries have insufficient resources relative to service costs for them to share significant costs. They could be motivated to economize by being allowed to share in any savings so achieved, however (i.e., the voucher approach). Alternatively, cash assistance could be increased and cost sharing required--which would in practice resemble vouchers.
4. In the general health insurance model, most cost savings are expected to derive from the beneficiary trading off less-valued health care for higher-valued other goods and services. Given their health status, ESRD beneficiaries are less able to make such tradeoffs than is the general population.	4. Continuous lifesaving nature of basic dialysis services differs considerably from most medical services, although some services provided to dialysis patients are less vital.

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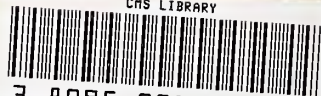
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